



ADMINISTRATIVE COUNTY OF ESSEX.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1938.

WILLIAM A. BULLOUGH, M.Sc., M.B., D.P.H.

COUNTY MEDICAL OFFICER OF HEALTH.

CHELMSFORD:

PRINTED BY JOHN DUTTON LTD., 8, TINDAL STREET.



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PUBLIC HEALTH AND HOUSING COMMITTEE.

Chairman—

ALDERMAN A. M. MATHEWS.

Vice-Chairman—

ALDERMAN F. D. SMITH.

Aldermen—

P. Astins

A. Brooks

C. W. Daines

A. W. Green

H. de Havilland

A. Porter

Col. Gilbertson Smith

Mrs. B. W. Williams

Councillors—

Mrs. C. B. Alderton

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A. J. Blake

J. H. Cæsar-Gordon

C. W. Clark

F. L. Cole

Mrs. C. Custerson

W. J. Day

Lt.-Com. H. Denton

F. J. Dovey

Mrs. L. F. Evans

Dr. B. Guyster

E. P. Horsey

Mrs. F. I. Husk

J. W. Mathews

J. C. Mead

J. C. Menhinick

E. Meredith

E. A. Mundy

H. F. Pash

H. W. Pawsey

F. J. Romanes

E. Smith

Mrs. M. Sorensen

G. S. Tilbury

G. J. Wetton

E. G. Wright

PREFACE.

To the Chairman and Members of the County Council.

I have the honour to submit to you my Twentieth Annual Report for the Administrative County of Essex for the year 1938. This is the 49th Annual Report which has been issued.

The routine features of the Report have been curtailed, primarily owing to pressure of other work, particularly air raid precautions, but also to provide an opportunity for including an abridged account of the epidemic of Acute Anterior Poliomyelitis.

At mid-year 1938, the population, as estimated by the Registrar-General, was 1,395,100, being an increase of 17,400, which is considerably less than the figure (33,240) in 1937.

More babies were born in the Administrative County during the year 1938 than in the year 1937, the number of births being 20,570 and 19,991 respectively. This resulted in the slightly increased birth-rate (14.7) in 1938, the rate for 1937 being 14.5, and the comparative rates for England and Wales being 15.1 and 14.9 respectively. The lowest rate (9.9) in the Administrative County was again in the Clacton-on-Sea Urban District, and the highest (19.7) was again in the Hornchurch Urban District where the development of new housing estates has been phenomenal for several years.

Fewer people died in Essex during the year, the number of deaths decreasing from 13,956 in 1937 to 13,467 in 1938, and the death rate from 10.1 to 9.6 respectively. Comparative rates for England and Wales also showed a decrease from 12.4 to 11.6. Causes of death are recorded in the Table on page 102. from which it will be seen that the highest figure was Heart Disease (3,455) which was 33 less than the previous year, but the next highest figure, Cancer (2,154) was 98 more than in 1937.

The number of deaths of infants under one year of age decreased from 910 in 1937 to 869 in 1938, the infant mortality rate falling from 46 in 1937 to 42 in 1938. Essex rates in this respect always compare very favourably with those for England and Wales, the comparative rates being 58 and 53 respectively.

The Administrative County was again entirely free from smallpox, and there was a reduction in the total notifications of infectious diseases. Scarlet fever and pneumonia were less prevalent, but there was an increase in the number of cases of Acute Anterior Poliomyelitis. I am indebted to Dr. F. E. Camps, Pathologist at the Chelmsford & Essex Hospital, for his helpful services and for a detailed account of the outbreak of this disease, extracts from which are recorded on pages 31 to 35. Every Hospital Authority and Medical Officer of Health concerned responded readily to the need for co-operative action, and the pooling of all the resources available was a great help in securing control of the outbreak and in providing promptly the best diagnostic

and treatment facilities for the patients. Special mention should be made of the Halstead Joint Hospital Board who unhesitatingly agreed to second and improve their hospital for patients who needed prolonged care and treatment. The Braintree, Colchester and Dunmow Hospitals also rendered invaluable service for other types of patients. An experience of this kind inevitably brings to light the weaknesses of the existing services, which should, as far as is practicable, be strengthened on the lines indicated in the conclusions set out on pages 35 and 36 of this report.

A further duty has now been placed on County Councils by the Cancer Act, 1939, to establish a service under which facilities for the diagnosis and treatment of cancer will be made available to all who are, or are suspected to be, suffering from the disease. A scheme is being prepared for the establishing of such facilities in this County. This is the first national effort to tackle this insidious disease which is yearly causing more and more anxiety and suffering throughout the whole Country.

Further progress has been made in providing for the diagnosis and treatment of Venereal Diseases by the opening in September, 1938, of the clinic at the Oldehureh County Hospital, Romford. Rapidly increasing attendances have confirmed the need for a clinic in that area. Propaganda work has also been increased, in association with the British Social Hygiene Council, the Mass Meetings at Chelmsford and Colchester being particularly successful.

In April, 1938, the County lost an able officer through the retirement of Dr. John F. Beale, who had held the post of Bacteriologist for Essex (part-time) since 1919, and who had been associated with Essex for a much longer period. He rendered invaluable assistance to hospitals, medical practitioners and medical officers of health, and was instrumental in providing and improving a laboratory service of which the County is justly proud. His successor (Dr. E. V. Suekling) who desires to be relieved of the post on 31st March, 1940, has kindly furnished a detailed report upon the work carried out during the year 1938. The County Council has approved of the establishment of a County Laboratory at Chelmsford on 1st April, 1940, and the East Anglian Institute of Agriculture, King Edward's Avenue, Chelmsford, is to be adapted and equipped for the purpose.

The remaining general public health services of the Department call for no special comment, except the work connected with the milk supply. On 1st April, 1938, the County Council's whole-time veterinary staff was taken over by the Ministry of Agriculture and Fisheries. Part of their work had to be continued and, therefore, four additional Assistant County Health Inspectors were appointed. Licences to produce Tuberculin Tested milk and Accredited milk increased from 865 to 919.

Developments in the County Council's Hospital services are recorded on pp. 71 and 72.

The opening of the Essex County Hospital at Wanstead on the 7th November, 1938, has gone some way to relieve the pressure on accommodation in the South-Western area.

The new County Convalescent Home at Dovereourt was opened on 30th November, 1938, and is fulfilling a very useful purpose.

Plans for the erection of the new Hospital at Crowlands and the new Convalescent Home at Pyrge Park are well advanced, and it is hoped to commence building operations very shortly.

Negotiations with voluntary hospitals continue and definite progress has been made so far as the Saffron Walden General Hospital is concerned, and next year it is hoped it will be possible to report that building operations have begun in connection with the extensions to this Hospital.

Under the heading "Air Raid Precautions," the Ministry of Health's Emergency Hospital Scheme is referred to on page 74 and must undoubtedly have some repercussions on the County Council's normal Hospital Services. The proposals of the Minister include the provision of hatted annexes to existing hospitals and the up-grading, *i.e.*, provision of additional services and equipment, of certain hospitals to provide for the accommodation of air raid casualties. Essex falls within Sector I of the Emergency Hospital Scheme and the Group Officer of the Sector is Mr. Russell Howard, of the London Hospital. He estimates that in Essex 16,435 beds will be available for casualties, leaving 5,366 beds for the chronic sick, tuberculosis and maternity patients, and children in an emergency. He has prepared a Provisional Organisation and a great deal of detailed work has been carried out in connection with this scheme in the department, and it is felt that we now have a scheme which is capable of being put into operation immediately should the necessity arise.

In addition to the Emergency Hospital Scheme there are, of course, in connection with air raid casualties the ordinary First Aid Services which are referred to on page 73. These have involved a great deal of concentrated effort during the year under review, and are now rapidly approaching completion. I am very grateful to local Medical Officers of Health for all the help and assistance that their co-operation in this matter has afforded the department during the year.

Part II of the Report is devoted to the many phases of the tuberculosis scheme. There was again a shortage of institutional beds, which it is hoped will be remedied by the County Hospital at Broomfield, the erection of which is nearing completion. There was an increase in the number of primary notifications, but the steady decrease in the death rate was maintained. Reports upon the work carried out at the County Sanatoria are again included and reveal the fact that the work has continued to be of a high standard.

In Part III are recorded details of the work undertaken under the County Council's Maternity and Child Welfare Scheme. There can be no doubt as to the success of this service in the area for which the County Council is the Child Welfare Authority as elsewhere. Five Combined Treatment Centres were opened during the year, increasing the number of these model centres to eighteen in various parts of the County.

The concluding Part of the Report (see page 98) gives a brief account of the many duties undertaken in connection with Public Assistance, particular note being made of the major improvements at Billericay, Chelmsford, Tendring, Great West Hatch, Chigwell, and Suttons Institution, Hornchurch.

I have pleasure in recording my appreciation of the confidence and support given to me by the Chairman and Members of the Public Health and Public Assistance Committees. To all the Medical Officers of Health and other officials of the local Sanitary Authorities, to the Medical, Dental, Nursing, Technical and Clerical Staffs, my best thanks are due for their efficient services. I am especially indebted to the Deputy County Medical Officer, Dr. T. P. Puddicombe, for his loyal support.

W. A. BULLOUGH,

County Medical Officer.

PUBLIC HEALTH DEPARTMENT,
COUNTY HALL,
CHELMSFORD.

29th July, 1939.

STAFF.*(1st April, 1939).***County Medical Officer, School Medical Officer and Chief Tuberculosis Officer.**

W. A. Bullough, M.Sc., M.B., Ch.B., D.P.H.

Deputy County Medical Officer.

T. P. Puddicombe, D.S.O., M.B., B.S., M.R.C.S., L.R.C.P., D.P.H.

Central Administrative Staff.

W. L. Yell, M.D., D.P.H.

J. L. Miller Wood, M.R.C.S., L.R.C.P., D.P.H., M.M.S.A. (also Medical Officer of Health, Maldon Borough and Burnham-on-Crouch Urban District.)

G. G. Stewart, M.R.C.S., L.R.C.P., D.P.H.

Specialist Staff.**(a) Whole-time.**

G. A. Jamieson, M.B., B.S., D.O.M.S., D.L.O., Ophthalmic Surgeon.

J. M. Elliott, M.B., Ch.B., Venereal Diseases Medical Officer.

J. H. Young, M.B., B.S., D.O.M.S., Assistant Ophthalmic Surgeon.

(b) Part-time.

Sir Henry J. Ganvain, M.C., M.A., M.D., F.R.C.S., Consulting Surgeon—Surgical Tuberculosis.

W. Burton Wood, M.A., M.D., M.R.C.P., D.P.H., Consulting Physician, Diseases of the Chest.

Mather Cordiner, M.B., Ch.B., D.M.R.E., Radiologist, Oldchurch County Hospital.

G. Franklin Wood, M.A., M.B., B.Ch., D.M.R.E., Radiologist—Sanatoria.

Hamilton Bailey, F.R.C.S., Consulting Surgeon, Oldehureh County Hospital.

R. W. Reid, M.S., F.R.C.S., Surgeon, Black Notley Sanatorium.

Arthur Burrows, M.D., M.R.C.P., D.M.R.E., Skin and Radium Specialist.

Everard Williams, F.C.O.G., M.R.C.S., M.R.C.P., Gynaecologist and Obstetrician.

Hamblen Thomas, F.R.C.S., Ear, Nose and Throat Specialist.

T. Collyer Summers, F.R.C.S., Consulting Ophthalmologist, Oldehureh County Hospital.

B. Whitechurch Howell, F.R.C.S., Orthopaedic Surgeon.

E. V. Suckling, M.B., B.S., M.R.C.S., L.R.C.P., D.P.H., Bacteriologist for Essex.

N. S. Plummer, M.D., M.R.C.S., L.R.C.P., B.S., M.R.C.P., General Consulting Physician
Oldehureh County Hospital.

F. E. Camps, M.D., M.R.C.S., L.R.C.P., Consultant Physician and Pathologist.

C. H. Fagge, M.A., B.M., Visiting Anaesthetist, Black Notley Sanatorium.

Alan Brews, F.R.C.S., Obstetric Consultant, Black Notley Sanatorium.

Whole-time Medical Staff, Oldehureh County Hospital, Romford.

E. Miles, M.B., Ch.B., D.P.H., Resident Medical Superintendent.

F. N. Foster, F.R.C.S., Non-resident Deputy Medical Superintendent.

E. B. Whittingham, F.R.C.S., Non-resident Assistant Surgeon.

G. O. Jelly, F.R.C.S., L.R.C.P., Resident Assistant M.O.

S. Henderson, M.B., Ch.B., F.R.C.S. (Edin.), L.R.C.P., M.C.O.G., M.M.S.A., Resident
Obstetric Surgeon.

S. F. Marshall, M.D., B.S., M.R.C.S., L.R.C.P., Non-resident Assistant M.O. and Pathologist.

O. McFeat, M.B., Ch.B., D.M.R.E., Resident Assistant Radiologist.

D. Stephens, M.R.C.S., L.R.C.P., Resident Orthopaedic Surgeon.

James G. Murdoch, M.B., Ch.B., D.A., Assistant Medical Officer and Resident Anaesthetist.

A. Garland, M.D., B.S., D.P.H., Non-resident Assistant M.O.

J. D. Watt, M.B., Ch.B., D.C.O.G., Resident Assistant Medical Officer.

Whole-time Medical Staff, Oldchurch County Hospital, Romford—*continued.*

T. B. Gordon, M.B., Ch.B., Resident Assistant Medical Officer, Out-patient Department.
 J. W. Bullimore, M.B., Ch.B., Junior Resident Medical Officer for 12 months.
 M. Macleod, M.B., Ch.B., Junior Resident Assistant Medical Officer (including Assistant Medical Officer, Suttons Institution, Hainault Lodge and Little Heath House).
 A. A. Finlayson, M.B., Ch.B., Junior Resident Medical Officer for 12 months.

Whole-time Medical Staff, Black Notley Sanatorium.

M. C. Wilkinson, M.B., B.S., M.R.C.S., L.R.C.P., Medical Superintendent.
 R. C. Cohen, M.D., B.S., M.R.C.S., L.R.C.P., D.P.H., Senior Assistant Medical Officer.
 F. Pygott, M.B., Ch.B., D.P.H., D.M.R.E., Second Assistant Medical Officer.
 W. J. Moffat, M.B., Ch.B., D.P.H., Junior Assistant Medical Officer.

Assistant County Medical Officers who are also Local Medical Officers of Health.

Name.	Qualifications.	Duties.
W. H. Alderton	.. M.C., M.R.C.S., L.R.C.P., D.P.H.	M.O.H., T.O., S.M.I., C.W.O.
B. Fraser Beatson	.. M.R.C.S., L.R.C.P., D.P.H., D.T.M. & H.	M.O.H., S.M.I.
W. T. G. Boul	.. M.D., D.P.H.	.. M.O.H., T.O., S.M.I.
C. B. Huss	.. M.B., B.S., M.R.C.S., L.R.C.P., D.P.H.	Deputy M.O.H. and Assistant C.M.O.
Enid L. Weatherhead	.. M.B., B.S., M.Sc.	.. Assistant M.O.H. and Assistant C.M.O.
L. S. Fry	.. B.A., M.D., D.P.H.	.. M.O.H., T.O. (including M.O., High Beech Sanatorium).
J. Hatton	.. M.D., D.P.H.	.. M.O.H., T.O.
N. S. R. Lorraine	.. M.D., D.P.H., F.R.S. (Edin.)	.. M.O.H., T.O.
W. A. Milne	.. M.B., Ch.B., D.P.H.	.. M.O.H., T.O., S.M.I., C.W.O.
J. Ramsbottom	.. M.B., Ch.B., D.P.H.	.. M.O.H., T.O., S.M.I., C.W.O.
J. S. Ranson	.. M.R.C.S., L.R.C.P., D.P.H.	.. M.O.H., T.O., S.M.I., C.W.O.
S. R. Richardson	.. B.A., M.D., D.P.H.	.. M.O.H., T.O., S.M.I., C.W.O.

Medical Officers of Health undertaking some duties part-time for the County Council.

Name.	Qualifications.	District.
W. F. Corfield	.. M.D., D.P.H.	.. Colchester.
C. E. E. Herington	.. M.B., B.S., D.P.H.	.. Dagenham.
J. B. Samson	.. M.D., D.P.H.	.. Romford.

Whole-time Assistant County Medical Officers.

Name.	Qualifications.	Duties.
Kathleen M. Bodkin	.. M.R.C.S., L.R.C.P., D.P.H.	.. S.M.I. and C.W.O.
F. G. Brown	.. B.A., M.B., B.Ch., B.A.O., D.P.H.	T.O. (including M.O., Harold Court Sanatorium).
Ruth M. Campbell	.. M.R.C.S., L.R.C.P.	.. S.M.I. and C.W.O.
J. G. Currid	.. M.A., M.B., Ch.B., D.P.H.	.. T.O.
Rachel A. Elliott	.. M.D., D.P.H.	.. S.M.I. and C.W.O.
E. L. Ewan	.. M.B., Ch.B., D.P.H.	.. S.M.I.
V. Feldman	.. M.D., M.R.C.S., M.R.C.P., D.P.H.	S.M.I. and C.W.O.
A. R. Forbes	.. M.B., Ch.B., D.P.H.	.. S.M.I.
J. Graham	.. M.A., M.B., Ch.B.	.. S.M.I. (also assists M.O., Harold Court Sanatorium).
Esther P. Jones	.. M.R.C.S., L.R.C.P.	.. S.M.I. and C.W.O.
Greta Lowe	.. M.B., Ch.B., D.T.M. & H.	.. S.M.I. and C.W.O.

Whole-time Assistant County Medical Officers—continued.

Name.	Qualifications.	Duties.
T. L. Ormerod	.. M.A., M.B., B.Ch. ..	T.O.
Eleanor Patterson	.. M.B., B.S., B.Hy., D.P.H. ..	S.M.I. and C.W.O.
H. Ramsay ..	.. M.D. (Lond), B.S., M.R.C.S., .. L.R.C.P.	T.O.
Mary D. Rankine	.. M.B., Ch.B., D.P.H., M.M.S.A.	S.M.I. and C.W.O.
J. E. Stokes	.. M.A., M.D., D.P.H. ..	T.O.
Mary Sutcliffe	.. M.A., M.R.C.S., L.R.C.P., B.Ch., D.P.H.	S.M.I. and C.W.O.
J. H. Crosby	.. M.B., Ch.B., D.P.H. ..	S.M.I. and C.W.O.
D. Irwin ..	.. M.B., Ch.B., B.A.O., B.A. ..	S.M.I. and Assistant M.O., County Hospital, Wanstead.
P. X. O'Dwyer	.. M.B., Ch.B., B.A.O., D.P.H. ..	S.M.I.

Medical Practitioners performing duties for County Council (part-time), S.M.I., C.W.O. or V.D.

G. O. Barber, I. M. Bell, L. M. Billingham, W. N. Booth, C. R. Dykes, W. F. Erskine, Mary E. Fox, H. J. Garland, Sybil D. Goodwill, Gwenedd Hugh-Jones, Alice Mackenzie, Lily Mackinnon, J. G. Madden, J. T. Moffat, F. A. M. Nelson, Evelyn Pirrie, Jemima B. Ratcliffe, J. P. Shaw, P. T. Spencer Phillips, Margaret Turner, H. A. Watney, C. A. Weller, J. T. Whitley.

Dr. Alex Porter acts as visiting Medical Officer, County Convalescent Home, Dovercourt.

Matrons of County Sanatoria and Hospitals.

M. Ruck, R.R.C.	..	..	..	..	Black Notley Sanatorium.
S. B. Loosley	..	..	..	..	Harold Court Sanatorium.
A. Roberts	..	..	..	..	High Beech Sanatorium.
E. M. McArthur	..	..	..	..	Oldechurch County Hospital.
E. Ward ..	..	..	..	..	Brookfield Orthopaedic Hospital.
F. E. Wyatt	..	..	..	..	Essex County Hospital, Wanstead.
M. Clad ..	..	..	..	..	Sister-in-charge, County Convalescent Home, Dovercourt.

Technical Staff.**County Health Inspector—**

A. Marsh, F.R. San. I. and Cert. Insp. of Meat and other Foods.

Assistant County Health Inspectors—

L. Y. Whittingham, A.R. San. I. and Cert. Insp. of Meat and other Foods, C.A.G.S.
 E. Royston, M.S.I.A., Cert. Insp. of Meat and other Foods.
 L. C. Corlett, M.S.I.A., Cert. Insp. of Meat and other Foods.
 S. E. Willis, M.S.I.A., Cert. Insp. of Meat and other Foods, C.A.G.S.
 E. N. Firth, M.S.I.A., A.R. San. I., Cert. Insp. of Meat and other Foods.
 M. W. Stock, M.S.I.A., A.R. San. I., Cert. Insp. of Meat and other Foods.

Orthopaedic Masseuses.**County Orthopaedic Masseuse—**

M. Scott, Teachers' Dip., Ed. Gym., R.S.I., C.S.M.M.G., M.E.

District Orthopaedic Masseuses—

M. E. Wells, C.S.M.M.G. and M.E.
 F. E. Parsons, C.S.M.M.G.

Part-time Orthopaedic Masseuses—

D. Parsons, C.S.M.M.G. (By arrangement with B.R.C.S.).
 D. Dawson, C.S.M.M.G., M.E., L.E.T. (Also at Halstead Isolation Hospital) (Temp.).
 M. E. M. Docker, C.S.M.M.G. (Halstead Isolation Hospital) (Temp.).

Health Visitors, School and Tuberculosis Nurses.

Chief Health Nurse—

D. M. Landon, S.R.N., S.C.M., Cert. R.S.I.

Non-Medical Supervisor of Midwives.

E. A. Davieson, S.R.N., S.C.M., Cert. R.S.I. (Also County Superintendent, Essex County Nursing Association).

Assistant Chief Health Nurses—

C. G. Teale, S.R.N., S.C.M., Cert. R.S.I. (Also Assistant County Superintendent, Essex County Nursing Association).

G. M. White, S.R.N., S.C.M., Cert. R.S.I.

Relief Health Visitor—

M. W. Dickson, S.R.N., S.C.M., Cert. R.S.I.

(a) Whole-time County Council.

Centre.	Name.	Qualifications.	Duties undertaken.		
			T.B.	S.N.	C.W.
Saffron Walden	.. Trillwood, E. K.	.. S.R.N., S.C.M., Cert. R.S.I.	.. Yes	Yes	Yes
Halstead	.. Starr, G. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Jossaume, J.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Lexden & Winstree	Meachen, N. V.	.. S.R.N., S.C.M.	.. "	"	"
"	.. Jackson, M. J.	.. S.R.N., S.C.M.	.. "	"	"
Tendring	.. Steele, R. M.	.. S.R.N., S.C.M.	.. "	"	"
"	.. Wallace, A. C. G.	S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Croll, M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Saffron Walden	.. Chittenden, A. E.	S.R.N., S.C.M.	.. "	"	"
Dunmow	.. Francis, N. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Ives, D. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Braintree	.. Jones, V. L. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Humfress, J. K.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Watson, H. J.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Epping	.. Myers, S. J.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Cooper, D. G.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Ongar	.. Mann, R. L.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Chelmsford	.. Smith, V. E.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Green, K. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Haryott, G. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Maldon	.. Hillyer, I. G.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Sullivan, R. L. D.	S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Burnham	.. Bond, D. E.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Chingford	.. Waterhouse, M.	.. King's College Cert. and Bd. of Ed. Cert.	.. "	"	"
"	.. Turner, V. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Griffiths, V. H.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Waltham Abbey	.. Owen, C. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Woodford	.. Waterhouse, K.	.. S.C.M., Children's Cert.	.. "	"	No
Buckhurst Hill	.. Glover, E.	.. S.R.N., S.C.M., R.S.I.	.. "	"	Yes
Romford	.. Newby, A. E.	.. S.R.N.	.. "	"	No
"	.. Champion, G. F.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	Yes
Hornchurch	.. Robbie, H.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Knox, E. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
"	.. Robinson, V. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"

Health Visitors, &c.—*continued.*

Centre.	Name.	Qualifications.	Duties undertaken.		
			T.B.	S.N.	C.W.
Hornchurch	.. Land, L. B.	.. S.R.N., S.C.M., Cert. R.S.I.	.. Yes	Yes	Yes
..	.. Hay, E. J.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Brentwood	.. Hughes, M. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
..	.. Derry, A. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Billerieay	.. Baillie, I. K.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
..	.. Shepherd, M. A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
..	.. Woodman, E. M.	.. S.R.N., S.C.M.	.. "	"	"
Orsett ..	.. Wall, A. D.	.. S.R.N.	.. "	"	No
Rochford	.. Smith, E. M.	.. S.R.N., S.C.M.	.. "	"	Yes
Benfleet	.. Richardson, P. M.	S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Rayleigh	.. Cassidy, M.	.. S.R.N., S.C.M.	.. "	"	"
Canvey Island	.. Knight, M. K.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"
Wanstead	.. Clarke, H.	.. S.R.N., S.C.M., Cert. R.S.I.	.. "	"	"

(b) Whole-time Tuberculosis Nurses.

Barking ..	.. Sansom, R.	.. S.R.N.	.. Yes	No	No
.. ..	.. Schropfer, E. M.	.. S.R.N., S.C.M.	.. "	"	"
Dagenham	.. Richards, E. F.	.. Board of Education (1923) Cert., S.C.M.	.. "	"	"
..	.. Barrow, I. A.	.. S.R.N., S.C.M., Tuberculosis Cert.	.. "	"	"
Ilford ..	.. Stewart, D. B.	.. S.R.N., S.C.M.	.. "	"	"
.. ..	.. Bowman, T. E.	.. S.C.M. and Nursing Cert.	.. "	"	"
.. ..	.. Harwin, M.	.. S.R.N., S.C.M., Tuberculosis Cert.	.. "	"	"
Leyton ..	.. Griffin, M. W.	.. Board of Education (1923) Cert., S.C.M., R.S.I.	.. "	"	"
.. ..	.. Lamborn, E. S.	.. S.R.N., S.C.M., R.S.I.	.. "	"	"
.. ..	.. Cunningham, J.	.. S.R.N., S.C.M.	.. "	"	"
Romford	.. Alder, B.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Krogman, L. M.	.. S.R.N., S.C.M.	.. "	"	"
Walthamstow	.. Brightman, A. C.	Children's Cert.	.. "	"	"
..	.. Ames, A.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Purves, D.	.. Sanatorium Training	.. "	"	"

(c) Whole-time School Nurses.

Dagenham	.. Lunn, E. L.	.. S.R.N.	.. No	Yes	No
..	.. Thurtle, E.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Murphy, E. M.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Jewell, J. M.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Jefferson, G. L.	.. S.R.N.	.. "	"	"
..	.. Jewell, I. M.	.. S.R.N., Children's Cert.	.. "	"	"
..	.. Brinblecombe, A. C.	S.R.N., S.C.M.	.. "	"	"
..	.. Rainey, H. M.	.. S.R.N., S.C.M.	.. "	"	"
Romford	.. Morgan, E. J.	.. S.R.N., S.C.M.	.. "	"	"
..	.. Harwood, N. C.	.. S.R.N., Home Nursing Cert.	.. "	"	"

(d) Whole-time, but only giving part-time to County Council.

Thurrock	.. Allcorn, R. E.	.. H.V.'s Diploma, 1920	.. Yes	Yes	No
..	.. Gibson, I.	.. H.V.'s Diploma	.. "	"	"

Health Visitors, &c.—continued.**(d) Whole-time, but only part-time to Council—continued.**

Centre.	Name.	Qualifications.	Duties undertaken.		
			T.B.	S.N.	C.W.
Thurrock	.. Polley, A.	.. S.R.N., S.C.M.	.. Yes	Yes	No
„	.. Miller, E. C. P.	.. S.R.N., S.C.M., Cert. R.S.I.	.. „	„	„
„	.. Fulford, V.	.. S.R.N., S.C.M., Cert. R.S.I.	.. „	„	„
„	.. Marshall, E. M.	.. S.R.N., S.C.M.	.. „	„	„
„	.. Darrell, E.	.. S.R.N., S.C.M., H.V. Cert.	.. „	„	„
„	.. King, E. M.	.. S.R.N., S.C.M., Cert. R.S.I.	.. „	„	„
„	.. Coates, A.	.. S.R.N., S.C.M., Cert. R.S.I.	.. „	„	„
Colchester	.. Riekard, M. E.	.. S.R.N., S.C.M., Cert. R.S.I.	.. „	No	„

(e) Probationer Health Visitor.

Hornchurch	.. Low, N. G.	.. S.R.N., S.C.M.	.. Yes	Yes	Yes
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(f) Council Midwives.

Billerieay	.. Price, M. E.	.. S.C.M., First Aid Cert.	.. —	—	Yes
„	.. Caleott, K.	.. S.C.M.	.. —	—	„
Braintree	.. Fenwick, A. H.	.. S.C.M., Home Nursing and First Aid Certs.	—	—	„
Chigwell ..	.. Bartter, R. S.	.. S.C.M. and R.S.I.	.. —	—	„
„ ..	.. Quill, G. H.	.. S.C.M.	.. —	—	„
„ ..	.. Jones, G. D.	.. S.R.N., S.C.M.	.. —	—	„
Chingford	.. Stenning, P. M.	.. S.C.M., Home Nursing and First Aid Certs.	—	—	„
Hornechurch	.. Child, E. F.	.. S.R.N., S.C.M.	.. —	—	„
„	.. Gayne, S. E.	.. S.C.M., Home Nursing and First Aid Certs.	—	—	„
„	.. Healey, S.	.. S.C.M., Surgical and Medical Cert. of G.N.C., C.M.B. Teacher's Cert.	—	—	„
„	.. Fisher, G.	.. S.C.M., Home Nursing and First Aid Certs.	—	—	„
„	.. Willis, W. B.	.. S.C.M., Mental Nursing Cert.	—	—	„
„	.. Barrett, D.	.. S.R.N., S.C.M.	.. —	—	„

Emergency Midwives—

Ward, D.	.. S.C.M.	.. —	—	„
Finch, E. K.	.. S.C.M., Home Nursing and First Aid Certs.	—	—	„
Wilson, G.	.. S.C.M., First Aid Cert.	.. —	—	„

Dental Staff.**(a) Senior Dental Surgeon (Whole-time).**

Name.	Qualifications.	District.
Donaldson, S. K.	.. L.D.S., R.F.P.S.	.. Chelmsford, Maldon, &c.

(b) District Dental Surgeons (Whole-time).

Roberts, A. S.	.. L.D.S., R.C.S.	.. Dagenham.
Hendry, A. W.	.. L.D.S., R.C.S.	.. Tendring.
Borgars, R. O.	.. L.D.S., R.C.S.	.. Hornchurch.

Dental Staff—continued.**(b) District Dental Surgeons. (Whole-time)—continued.**

Name.	Qualifications.	District.
Chamberlain, F. R. ..	L.D.S., R.C.S. ..	Braintree and Saffron Walden, &c.
Hurley, D. W. ..	L.D.S., R.F.P.S. ..	Thurroek.
Morgan, R. E. ..	L.D.S.U. ..	Dagenham.
Chase, R. ..	L.D.S., R.C.S. ..	Woodford & Chingford.
Connelly, B. ..	L.D.S., R.C.S. ..	Romford.
Edgar, J. ..	L.D.S., R.F.P.S. ..	Braintree, &c.
Maxwell, R. ..	L.D.S., R.C.S. ..	Dagenham.
Oldale, A. G. ..	L.D.S., R.C.S. ..	Thurrock, &c.
Smart, J. ..	L.D.S., R.C.S. ..	Epping, &c.
Wilson, H. B. ..	L.D.S., R.F.P.S. ..	Romford.
Wilson, Miss J. M. ..	L.D.S., R.C.S. ..	Romford & Dagenham.
McNamara, T. ..	L.D.S., R.F.P.S. ..	Lexden & Winstree and Maldon.

(c) Whole-time Dental Attendants.

Carter, E. D., Devine, P., Stratford, M. R., Dallison, R., Salway, D., Martin, V. L. M., Luck' L. A., Lloyd, E. L., Nichols, L. M., Polly, L., Wills, M., Bowman, M. H., Makings, F., Lewis, K., Masters, E. M. K., Nice, E. K.

Clerical Staff.

(a) Clerical Assistant ..	.. L. Hey.
(b) Departmental Clerks ..	.. H. J. Allsupp. S. G. Clarke.
(c) Class I Clerks ..	.. P. T. Burdon. P. H. Moth. J. W. Hurst.

(d) Central Office.*Male Clerks.*

S. R. Shilton.
A. C. Gnymer.
R. H. Dennison.
R. Porter.
E. Rieh.
R. W. Pye.
R. C. Harris.
T. R. Hicks.
J. T. Hitching.
R. Haywood.
L. A. E. Osbon.
W. Murnane.
R. D. Richards.
H. S. Bird.
R. J. Sparrow.
H. Gibson.
R. J. V. Prudencee.

Female Clerks.

N. M. Chaplin.
I. M. Thomas.
Q. Nice.

Shorthand-Typists.

E. H. Scott.
J. M. Wells.
M. J. Gosling.
L. Brown.
K. Bloxham.
G. J. England.
D. W. Last.
F. Speer.
N. Crozier.
E. J. Runcorn.
G. M. Marriner.
J. M. King.
M. Chapman.
M. E. Hall.

Clerical Staff—continued.**(e) Dispensary Clerks.***Male.*

A. E. Thornton.
L. M. E. Lamb.

Shorthand-Typists.

R. Carrington.
P. E. Cork.
D. Goodwin.
L. Webb.
G. E. Johns.

(f) Combined Treatment Centre Clerks.*Female.*

M. D. Walsh.
M. J. Amos.

PART I.

ACREAGE AND POPULATION.

The area of the Administrative County as revised under Section 46 of the Local Government Act, 1929, is shown in the following table, which also sets out particulars of the Registrar-General's estimated population for the year 1938, compared with the census figures of 1931. The table gives as in previous years, the rateable value and the product of a 1d. rate.

During the year the Urban Districts of Chingford and Dagenham were created Municipal Boroughs.

	Revised Areas.		Registrar-General's Estimated Normal Population, 1938.	Rateable Value 1st April, 1938.
	Aeres. Census, 1931.	Population Census, 1931.		
Municipal Boroughs (13) ..	72,450	739,129	856,983	} £9,843,615
Urban Districts (19) ..	184,532	265,196	344,417	
Rural Districts (11) ..	702,482	184,679	193,700	
	959,464	1,189,004	1,395,100	

The product of a 1d. rate is estimated at £39,481.

SOCIAL CONDITIONS.

The observations contained in the previous report for the year 1937 continue to apply.

VITAL STATISTICS.

The total number of births, still-births, deaths at all ages, etc., is set out in Table XXX, in Part V of the Report. The chief vital statistics of the Administrative County compared with those for England and Wales during 1938, are set out below :—

	Essex.		England and Wales.	
	1934-1938.	1938.	1934-1938.	1938.
Birth-rate per 1,000 population	14·5	14·7	14·9	15·1
Death-rate „ „	9·8	9·6	11·9	11·6
Infant mortality rate per 1,000 births	46	42	57	53
Still-births rate per 1,000 total live and still-births	33	33	40*	Not avail- able.

* Period 1934-1937.

NOTIFICATION OF INFECTIOUS DISEASES.

A summary of the notification of infectious diseases in the various Sanitary Districts during 1938 is set out in Table XXXII. on page 103. The table shows that 8,032 persons were notified to be suffering from infectious disease, compared with 7,889 in 1937.

SCARLET FEVER. The number of cases notified was 2,903 in 1938, as against 3,302 in 1937, the number of deaths being 5 and 6 respectively for these two years.

DIPHThERIA. There was a further decrease to 1,220 cases, as compared with 1,258 in 1937. The deaths, however, show an increase, the number being 67, as compared with 60 in 1937.

ENTERIC FEVER. Fifty-four cases were notified during the year, whereas the number recorded during 1937 was 145. The deaths also declined, being 7, as compared with 10 in 1937.

SMALL POX. No case of Small Pox occurred during 1938.

EPIDEMIC OF ACUTE ANTERIOR POLIOMYELITIS.

An outbreak of Acute Anterior Poliomyelitis commenced in the northern part of Essex on 1st July, 1938.

The incidence of Acute Anterior Poliomyelitis in Essex for the last twelve years is shown in Table I below. The last localised outbreak was in the Thurrock District in 1926.

TABLE I.

Years ..	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
No. of Cases	89	15	13	14	7	7	31	26	15	30	71	62	181

YEAR 1938.

<i>Month.</i>	<i>District.</i>	<i>No.</i>	<i>Month.</i>	<i>District.</i>	<i>No.</i>
January ..	Chelmsford R.	.. 1	July ..	Braintree & Bocking	3
February ..	Waltham Holy Cross	1		Colchester B.	.. 2
	Saffron Walden R.	.. 1		Halstead U.	.. 10
				Harwich B.	.. 1
March ..	Thurrock U.	.. 1		Dunmow R.	.. 4
				Halstead R.	.. 3
May ..	Ilford B.	.. 1		Rochford R.	.. 1
	Romford B.	.. 1	August ..	Barking B.	.. 2
June ..	Ilford B.	.. 1		Braintree & Bocking U.	23
				Clacton-on-Sea U.	1

<i>Month.</i>	<i>District.</i>	<i>No.</i>	<i>Month.</i>	<i>District.</i>	<i>No.</i>
August (<i>contd.</i>)	Colchester B.	.. 4	October	Barking B.	.. 1
	Dagenham B.	.. 1		Braintree & Bocking U.	.. 2
	Halstead U.	.. 1		Harwich B.	.. 15
	Leyton B.	.. 1		Romford B.	.. 1
	Romford B.	.. 1		Braintree R.	.. 1
	Braintree R.	.. 10		Dunmow R.	.. 2
	Chelmsford R.	.. 1		Halstead R.	.. 2
	Dunmow R.	.. 5		Saffron Walden R.	.. 1
	Halstead R.	.. 6		Tendring R.	.. 10
	Lexden & Winstree R.	4			
September	.. Billericay U.	.. 1	November	.. Braintree & Bocking U.	.. 2
	.. Braintree & Bocking U.	.. 6		.. Colchester B.	.. 1
	.. Clacton-on-Sea U.	.. 1		.. Halstead U.	.. 1
	.. Epping U.	.. 1		.. Harwich B.	.. 4
	.. Ilford B.	.. 1		.. Wanstead & Woodford B.	.. 1
	.. Leyton B.	.. 3		.. Braintree R.	.. 1
	.. Wanstead & Woodford B.	.. 1		.. Chelmsford R.	.. 3
	.. Witham U.	.. 1		.. Saffron Walden R.	.. 1
	.. Braintree R.	.. 6		.. Tendring R.	.. 2
	.. Chelmsford R.	.. 1	December	.. Chigwell U.	.. 1
	.. Dunmow R.	.. 2		.. Colchester B.	.. 6
	.. Halstead R.	.. 3		.. Ilford B.	.. 1
	.. Saffron Walden R.	.. 1		.. Hornchurch U.	.. 1
	.. Tendring R.	.. 1		.. Walthamstow B.	.. 1

Table II gives the Meteorological Observations made by Mr. Francis N. Adams, B. A. at the Halstead Brewery, Essex, Climatological Station.

Dunmow Rural District.

The first cases to cause comment were four boys at a Public School in the Dunmow Rural District, who were taken ill on 15th July with an acute febrile illness. All these boys were in one House, and fortunately no further cases occurred in the school. On the 18th July, 1938, the County Medical Officer was informed and kept in touch with the School Authorities.

Halstead Urban and Rural Districts.

On Friday, 15th July, 1938, a case of acute anterior poliomyelitis was notified, and it was requested that the case should be admitted to Halstead Isolation Hospital pending a vacancy at the Essex County Hospital, Colchester. On Tuesday, 19th July, information was received of another boy with the disease who had been sent direct to the hospital at Colchester, and on 20th July notification of two further cases were made of children who were suffering from the disease in mild form.

Dr. Ranson, Medical Officer of Health, Halstead, advised the Ministry of Health of the outbreak, consulted the County Medical Officer and advised the medical practitioners in the district. The County Medical Officer immediately offered the services of Dr. F. E. Camps, the County Consultant Physician and Pathologist, and also the services of any other member of the County staff who could be of use.

On 21st July all cases and suspicious cases were visited by the Medical Officer of Health, with the result that there were found to be six definite cases in addition to the two already admitted to the hospital. Of these, four were admitted to hospital on 22nd July and two remained at home because of opposition on the part of the parents.

On Saturday, 23rd July, two further cases were diagnosed.

TABLE II.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1938.

We have been favoured by Mr. Francis N. Adams, B.A., with the following monthly averages for the year 1938, taken at the Halstead Brewery, Essex, Climatological Station (139 feet above sea level) :—

1938.	Baro- meter. Ins.	Thermometers.				Mean tem- pera- ture.	Mean range tem- pera- ture.	Amount of cloud at 9 a.m. [0—10]	Temperatures.				Relative humidity saturation = 100.	Rain- fall. Ins.	Days on which rain fell.	Max. rainfall.	
		At 9 a.m.		Max.	Min.				High- est. Max.	Day of month.	Low- est. Min.	Day of month.				Ins.	Day of month.
		Dry.	Wet.														
January	29.70	41.5	40.2	°	36.0	°	41.7	°	7.2	56	24	30	°	11	22	.51	29
February	30.10	40.3	38.4	°	34.9	°	40.8	°	6.5	57	26	27	°	25	6	.15	26
March	30.13	49.0	45.6	°	38.3	°	49.2	°	4.9	68	20, 30	29	°	4, 7, 8	3	.21	25
April	30.17	49.4	44.8	°	34.3	°	45.1	°	6.3	67	1	23	°	11	6	.10	30
May	29.87	54.5	49.2	°	42.0	°	51.0	°	7.0	76	14	25	°	8	12	.39	17
June	29.95	62.9	56.2	°	50.8	°	60.6	°	7.2	79	14, 21, 25	39	°	13	7	.40	1
July	29.87	63.5	57.5	°	51.7	°	61.3	°	7.2	83	31	42	°	2	15	.30	5
August	29.90	64.8	59.8	°	53.4	°	62.9	°	6.5	84	1, 6	38	°	23	7	.80	10
September	29.97	61.2	57.3	°	49.0	°	58.0	°	5.9	81	12	35	°	3	14	.60	27
October	29.78	51.5	50.1	°	41.4	°	49.9	°	4.9	66	9	28	°	25	18	.52	3
November	29.74	48.7	47.5	°	42.0	°	48.4	°	7.9	70	5	28	°	27, 30	17	.65	25
December	29.77	38.2	37.3	°	33.2	°	38.3	°	7.0	55	4, 12	17	°	21	20	.46	31
														18.42	147		

Average Rainfall for last 10 years (inches) :—1929, 24.31 ; 1930, 25.59 ; 1931, 22.04 ; 1932, 21.48 ; 1933, 17.08 ;

Average Rainfall for last 10 years (inches) :—1929, 24.31; 1930, 25.59; 1931, 22.04; 1932, 21.48; 1933, 17.08; 1934, 18.70; 1935, 27.42; 1936, 26.57; 1937, 27.46; 1938, 18.42. Average :—22.90 inches.

Average Rainfall for the last 46 years :—23.14 inches.

Attention is drawn to the maximum temperature of 70° on November 5th, 1938, this being the highest November temperature registered at this station during the 46 years of its existence.

Braintree & Bocking Urban and Braintree Rural Districts.

In Braintree, on 20th July, two children (brother and sister) commenced to have symptoms and on 22nd July another boy was discovered suffering from the disease ; these three cases were first diagnosed on 24th July, but later it was found that the first case in Braintree had actually developed symptoms on 11th July, 1938. After this cases continued to occur in the district around Halstead and Braintree for the next five weeks and to a less extent until October.

On 26th July the County Medical Officer circularised all the Medical Officers of Health in the County as follows :—

Infantile Paralysis : Ministry of Health Circular 1298, Memorandum 166/Med.

“ In the first two quarters of 1938 there have been occasional sporadic cases of infantile paralysis notified in different parts of the County.

I think you ought to know that there have been three groups of acute cases of infantile paralysis during the present month of July. One group was in the Halstead district, a second in the Dunmow district and a third in the Braintree district.

Doubtless you will consider notifying the practitioners in your district. Headache, stiffness of the neck and pain in the back seem to be the chief early symptoms.

Any pathological help or assistance can be obtained on application by you to me or direct to Dr. F. E. Camps, Osborne Place, London Road, Chelmsford, Telephone, Chelmsford 3481.”

On the 29th July a case of acute anterior poliomyelitis occurred in Little Waltham (Chelmsford Rural District), and odd cases occurred in September, November and December in Great Waltham, Great and Little Leighs and Boreham.

A small outbreak of six cases (two abortive) occurred in Aldham (Lexden and Winstree Rural District), which is in the district lying between Halstead and Colchester, the first one commencing on 9th August, and of these six cases, four were in one family.

As far as can be ascertained the first case to occur in Colchester was on 22nd July, and three other cases were noted during August, after which there was a lull until the end of November, when eight more cases were diagnosed, the last being on 19th January, 1939.

In the Harwich district one case was notified during July, which was apparently three or four weeks after its onset, but as no further cases occurred until September, it is reasonable to assume that this was not one of the Essex epidemic, but possibly had originated from Suffolk where the disease was present at that time. The first real indication of an outbreak in Harwich was on 24th September, when a child was seen by the Medical Officer of Health with faeial paralysis, and on 30th September two more cases occurred, after which several more were notified continuing until 15th December, 1938.

Whilst this was occurring in Harwich, a similar state of affairs was being experienced in Lawford and Wix (Tendring Rural District), where the first case was diagnosed on 11th September, and further cases occurred until 15th October.

In other areas one or two cases occurred which could be linked up with the epidemic, notably at Clacton, Leigh-on-Sea and Southend, whilst others which could be regarded as ordinary sporadic cases occurred at Romford, Barking, Dagenham and Southend.

Before closing this description it is of interest to note that two cases occurred at Loughton in December, which were not clinically similar to the epidemic cases, but which were definitely associated with one another.

The total number of cases notified in the Administrative County of Essex from July to December, 1938, was 174.

On Saturday, 23rd July, Dr. Camps visited the Halstead Isolation Hospital to see several patients in consultation with Dr. Ranson, and performed diagnostic lumbar punctures. The cerebro-spinal fluid was taken back to the Chelmsford and Essex Hospital laboratory and examined, and as a result of this it was possible to say that all these cases were definitely Acute Anterior Poliomyelitis.

At the same time consent was given to obtain a Drinker apparatus for a case of respiratory paralysis. It was received from Dr. Grant Pugh, Medical Officer of Health of Southend, the same night, and the patient experienced great relief on being placed in it. A second Drinker apparatus was loaned to the Braintree Isolation Hospital by the London County Council.

Several important problems arose and these were discussed between the County Medical Officer and the representatives of the various authorities concerned.

On the 17th August, 1938, the County Medical Officer addressed a further letter to Medical Officers of Health, and also Medical Officers of Isolation Hospitals, as follows :—

“ Adverting to my circular letter of the 26th July with regard to the above, you will be interested in the following information concerning notified cases up-to-date :—

Area.	Number.
Barking Borough	2
Braintree and Bocking Urban District ..	18
Braintree Rural District	7 (1 death)
Chelmsford Rural District	1
Colchester Borough	3
Dagenham Urban District	1
Dunmow Rural District	9 (1 death)
Halstead Urban District	10
Halstead Rural District	9
Harwich Borough	1
Lexden and Winstree Rural District ..	5

It would appear that in certain parts of the County cases of infantile paralysis are of the kind that occur during an outbreak which are so different from the standpoint of infectivity, from the ordinary sporadic type of case.

I would remind you that if you require the services of Dr. F. E. Camps, they may be obtained by telephoning direct to him at Chelmsford 3481 or by application to me.

Most of the patients are isolated in the Halstead Isolation Hospital, but there are a number in the Braintree Isolation Hospital. As cases are notified they will tend to be sent to the local Fever Hospital, but I think there are many advantages in limiting the number of foci of infection, and it is suggested that it would be good policy under the reciprocal arrangements between Isolation Hospitals, to transfer patients from other Isolation Hospitals to Halstead Isolation Hospital if beds are available. This will also facilitate the subsequent orthopaedic treatment when the infective stage is over.

In order that my information with regard to the progress of the outbreak may be as up-to-date as possible, I shall be very much obliged if, in addition to the usual notification on the weekly post card, you will inform me immediately of any case occurring in your district, giving the name, address and age of the patient, and which hospital (if any) to which the patient has been sent.

If you have any suggestion or proposal to make in respect to any measures for limiting the spread of infection, I shall be glad to consider them. For example, in the Braintree and Halstead areas very useful posters have been displayed. Child Welfare Centres and other Clinics have been temporarily closed."

In the Braintree, Dunmow and Halstead areas it was decided at the end of August, 1938, to postpone the reopening of the schools after the summer holidays, and to close the Clinics, Child Welfare Centres, County Libraries, etc., during the time the schools were closed. Most of the schools reopened on the 19th September, 1938, but where further cases had occurred the schools were kept closed until the middle of October, 1938.

Arrangements were made to exclude visitors from the County Sanatoria and Institutions.

In the Tendring district the schools in the Manningtree and Lawford area were closed owing to the occurrence of cases in October.

All children living in parishes where schools were closed and who attended schools outside the area were excluded from school during the time of closure.

Posters were displayed, pamphlets issued, and various organisations asked to co-operate in excluding young children from public meetings, etc. Children under 12 years of age were discouraged from attending swimming pools. Further observations are made in regard to precautionary measures under the paragraph headed "Control", on page 31.

Dr. J. Hatton, Medical Officer of Health of the Braintree and Bocking Urban District, Braintree Rural District, Dunmow Rural District, and Witham Urban District, writes as follows concerning the outbreak in his area :—

"The total number of cases notified in these districts was sixty-six. There were eight deaths, including the two cases mentioned below which were notified following tonsillectomy and of the remaining patients at the

present time forty-two have made a complete recovery, nine are expected to make a complete recovery and in the remaining seven cases complete recovery is considered doubtful or unlikely. In addition two patients subsequently received orthopaedic treatment for conditions which were probably due to unrecognised attacks of infantile paralysis. Both are expected to make a complete recovery.

Definite contact with clinically recognisable cases was traced in 12 per cent. of cases only and as in previous outbreaks the infection appears to have been maintained by healthy carriers and by unattended or abortive cases.

The incubation period in the majority of cases could not be determined but where direct contact was established it varied between two to ten days which has been the experience in previous outbreaks. The length of the infectivity of clinical cases was not worked out, but in all cases six weeks' isolation was enforced and no return cases associated with the patients discharged at the end of that period were reported.

The condition of nourishment of individuals does not appear to have influenced susceptibility to the disease. Two cases of pregnancy were attacked with severe initial paralysis and both died subsequently. Two cases following tonsillectomy with sudden death were reported although the post-mortem findings in these were not altogether conclusive.

A remission of symptoms was noted in approximately 40 per cent. of the cases."

Table III below shows the maximum age incidence to be the 6—10 year group, the next commonest being 1—5, 11—15 and 16—20. If, however, the rural and urban districts are examined separately the age incidence in the former appears to be higher than in the town.

TABLE III.

District.	Under 1 year.	1-5. years.	6-10. years.	11-15. years.	16-20. years.	21-30. years.	31-40. years.
Braintree & Bocking U. ..	—	11	11	6	3	4	1
Braintree R.	—	5	—	6	7	—	—
Colechester B.	—	5	4	—	—	2	—
Dunmow R.	—	1	2	6	3	1	—
Halstead U.	—	5	5	—	1	1	—
Halstead R.	—	3	3	6	1	—	1
Harwich B.	—	10	7	1	—	—	—
Lexden & Winstree R. ..	—	1	2	—	1	—	—
Tendring R.	—	3	2	1	3	1	—
Other Areas in Essex ..	2	5	13	3	1	5	2

Age not obtainable = 7.

Table IV below gives the sex incidence arranged according to the areas. From the totals there appears to be a definitely higher incidence of males than females.

TABLE IV.

District.	Males.		Females.		Estimated Population, 1937.
	Cases.	Deaths.	Cases.	Deaths.	
Braintree and Bocking U.	19	1	17	3	14650
Braintree R.	11	1	7	2	15660
Colchester B.	9	1	4	—	51820
Dunmow R.	9	2	4	—	16170
Halstead U.	7	—	5	—	5859
Halstead R.	11	2	3	—	15620
Harwich B.	9	1	11	2	12690
Lexden & Winstree R.	3	1	1	—	19840
Tendring R.	7	1	6	1	22840
Other Areas in Essex	16	1	15	—	—

Out of a total number of 174 cases, 16 died directly or indirectly from the disease and, of the remaining three deaths, two may later prove to be genuine cases, thus constituting a mortality rate of about 10 per cent.

In all five post mortem examinations were performed, three being upon definite cases. Of the remaining two cases, both of which are alleged to have died of bulbar paralysis, confirmation of the diagnosis has not yet been made, but one of the cases had a definite streptococcal septicaemia.

PROVISION OF ORTHOPAEDIC TREATMENT.

It was decided that orthopaedic treatment should be available from the earliest possible moment, and with this end in view, in the absence on holiday of the County Orthopaedic Surgeon, Mr. Whitchurch Howell, the services of Mr. Ronald Reid, Surgeon to the Essex County Hospital, Colchester, were obtained to supervise the patients. Fortunately at that time three members of the Black Notley Sanatorium staff were qualified and able to render valuable assistance, namely, the Matron, Miss M. Ruck, Dr. O'Reilly and Dr. Tucker, who had had considerable experience in similar work at the Princess Elizabeth Orthopaedic Hospital, Exeter, and as House Surgeon, Winnipeg General Hospital, Canada.

In order to avoid any risk of their conveying infection from the Isolation Hospital to the Sanatorium, particular care was taken in regard to the wearing of masks and changing into different clothing. Dr. Tucker was subsequently appointed temporary Resident Medical Officer at the Halstead Isolation Hospital under Dr. Ranson, the Medical Superintendent. Provision was also made for the supply of splints, plaster, etc., when it was decided to utilise the Halstead Isolation Hospital entirely for orthopaedic cases.

Dr. Ranson, with the co-operation of the County Council and the local Joint Hospital Board, converted a room in the hospital into a plaster room, and facilities were made available for applying plaster and also hydro-therapy by means of a galvanized tank 5ft. 9in. by 3ft. 3in. by 2ft. deep. Massage treatment was also made available through the County Orthopaedic Massense, Miss M. Scott, and later through the appointment of two temporary orthopaedic masseuses.

The County Council as Education and Maternity and Child Welfare Authority accepted responsibility for the provision of orthopaedic treatment in respect to patients from most of the districts affected.

DIAGNOSIS FACILITIES.

Arrangements were made whereby Medical Officers of Health could utilise the services of Dr. F. E. Camps, to see doubtful cases in their own homes, and to perform lumbar punctures if desirable. This facility was utilised to the extent of 17 cases, and at the same time the laboratory at the Chelmsford and Essex Hospital was made available by day and night for any emergency examinations.

HOSPITAL ACCOMMODATION.

At the very earliest moment of the outbreak, Dr. Ranson realised that it would be unwise to admit cases of Acute Anterior Poliomyelitis into a fever hospital where patients suffering from scarlet fever were present, in view of the danger of cross infection. He accordingly made arrangements with the Medical Officer of the Saffron Walden Isolation Hospital to admit such cases.

Also, it was evident that unless the epidemic abated there would come a time when there would be insufficient accommodation at Halstead and Braintree Isolation Hospitals. The problem was accentuated by the fact that several independent Hospital Boards were involved in addition to local health authorities. The County Medical Officer of Health held a meeting on 16th August, 1938, at the Braintree Isolation Hospital, at which the majority of interested parties were present and the situation was discussed. As a result of this the following decisions were arrived at :—

Braintree Isolation Hospital to be used for acute cases. The Drinker apparatus from the London County Council was installed in one of the wards on the 10th August, 1938.

Halstead Isolation Hospital to be used for patients requiring orthopædic treatment and, as far as possible, for acute cases from the Halstead Urban and Rural Districts. A Drinker apparatus was borrowed from the Southend Corporation on 23rd July and installed at the Isolation Hospital for a few days. It was then returned to Southend.

Dunmow Isolation Hospital, which had been closed in 1937, was re-opened on 19th August, 1938, and made available for convalescent patients, and patients not requiring orthopædic treatment.

Later, when the epidemic spread outside this area :—

Colchester Isolation Hospital admitted acute cases from its own district and Harwich Borough and Tendring Rural District, and transferred cases requiring orthopædic treatment to Halstead.

The question as to whether patients should be transferred to orthopædic and general hospitals, *e.g.*, Oldehurch County Hospital, Romford, was discussed, and it was decided that it was inadvisable to do so for two reasons :—

- (1) The possibility of conveying infection ;
- (2) The desirability of centralization and advantage of proximity to patients' own homes.

During the whole time the County Medical Officer kept in close touch with the epidemic and gave every possible assistance from the County Public Health Department.

ADDITIONAL ADVICE.

(1) Upon being notified of the epidemic the Ministry of Health sent down Dr. Norman Smith, who gave much helpful advice and suggestions.

(2) Dr. Perdrau, of the Medical Research Institute, Hampstead, was kind enough to examine certain materials and also to give advice upon certain questions of policy.

Dr. Ranson, as Medical Superintendent of the Isolation Hospital, writes :—

“ It was early recognised that it was essential that only definite cases of disease should be admitted to the Isolation Hospital. The custom then became to keep suspicious cases at home and to await the result of the examination of the cerebro-spinal fluid after lumbar puncture. Practically all the cases admitted to the Halstead Isolation Hospital, however mild, later developed some slight muscular weakness.

On admission to the hospital the acute cases were treated by sedatives for from four to six days, by the end of which time the pyrexia had usually subsided. The paralysed limbs were then put into plasters which were bivalved after a period of two weeks. If the paralysis was extensive the patient was placed in a plaster bed. It was later found that the patients preferred and did better in these beds, and, as the nursing of cases therein was also easier, it became customary to make such beds for most cases except those with paralysis only of one arm or leg.

The earlier cases had no remedial exercises earlier than the sixth or seventh week. The later cases have had their exercises from the third week and seem to have benefited therefrom.

All cases discharged from hospital have been kept under observation at the County Council's orthopædic clinics. It has been found advisable for all cases of children discharged to wear varus wedges in their shoes as most of the early cases show evidence of flat foot after their lengthy period in bed.

The most interesting observation made on the disease was the connection between excessive exercise taken during the initial mild stage of the disease and the paralysis which followed.

One peculiar clinical characteristic associated with Acute Anterior Poliomyelitis has long been the subject of speculation, namely, why certain muscles are affected more frequently than others.

Experimental evidence has shown that the virus passes down the cord itself after intra-cerebral inoculation and not by the cerebro-spinal fluid. Similarly the most commonly affected anterior horn cells are those of the cervical and lumbar enlargements of the cord, the latter being the most common. But, in its passage down the cord the virus must pass near the anterior horn cells of the other segments, and that this is so is amply shown by the fact that these cells are affected on some occasions. There appears, therefore, to be some factor which causes this predilection for certain segments. It is perhaps of some significance that these enlargements of the cord innervate the limbs. The observations quoted at the beginning of the paper suggest

that paralysis is associated with excessive exercise of the muscles affected during the stage of invasion, or in other words, that possibly fatigue of the anterior horn cells renders them more prone to damage by the virus. This theory is borne out by the general observations of the frequency with which the various muscles are paralysed. It will be sufficient to say that the most commonly affected are firstly certain muscles of the leg and secondly certain muscles of the arms. These muscles are innervated by the cervical and lumbar enlargements of the cord mentioned above. It would appear significant that these muscles are also those most frequently used in normal exercise and hence are more liable to fatigue. An examination of the literature shows that certain observations have been made as to the association between trauma and paralysis, and cases have been quoted of paralysis occurring in an injured limb which has been placed in plaster following an accident. These observations do not, however, contradict the hypothesis of exhaustion, as, however well a plaster may be applied, there is always some slight movement and such a movement will produce spasm and hence exhaustion.

Although this theory of exhaustion has not passed beyond the stage of a tentative suggestion it does appear to indicate that all cases should be rested as early as possible in the disease. It may even be that the reason for the alleged success of convalescent serum in the preparalytic stage has been due to early immobilisation and not the serum at all."

Cases admitted to Halstead Isolation Hospital.

Halstead District.				Braintree District.				Other Districts.					
Adults.		Children.		Adults.		Children.		Adults.		Children.			
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
2	1	19	5	..	5	6	15	13	..	2	3	11	10

Age groups of all cases admitted to the Halstead Isolation Hospital.

		Under 1 year.	1 to 5 years.	6 to 10 years.	11 to 15 years.	16 to 20 years.	21 to 30 years.	31 to 40 years.
Male	..	1	13	23	9	7	2	1
Females	..	—	10	11	5	5	4	1

Severity of Cases.

Very mild cases	..	..	..	..	4
Affecting neck muscles only	..	..	..	..	1
„ face muscles only	..	..	..	..	1
„ back muscles only	..	..	..	..	6
„ abdominal muscles only	..	..	..	..	2
„ muscles of one leg only	..	..	..	..	33
„ muscles of two legs only	..	..	..	..	17
„ muscles of one arm only	..	..	..	..	9
„ muscles of two arms only	..	..	..	..	1
Severe cases	..	..	..	..	18
					—
					92
					—

Cases admitted or transferred to the Dunmow Isolation Hospital.

Halstead District.				Braintree District.				Other Districts.					
Adults.		Children.		Adults.		Children.		Adults.		Children.			
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
—	—	12	5	..	5	2	15	13	..	1	1	6	5

Age Groups of all cases admitted to the Dunmow Isolation Hospital.

		Under 1 year.	1 to 5 years.	6 to 10 years.	11 to 15 years.	16 to 20 years.	21 to 30 years.	31 to 40 years.
Males	..	—	12	16	7	2	1	1
Females	..	—	14	5	4	3	—	—

Cases admitted to the Braintree Isolation Hospital.

Braintree District.				Dunmow District.				Other Districts.					
Adults.		Children.		Adults.		Children.		Adults.		Children.			
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
8	6	13	12	..	2	—	4	—	..	1	1	3	1

Age Groups of all cases admitted to the Braintree Isolation Hospital.

		Under 1 year.	1 to 5 years.	6 to 10 years.	11 to 15 years.	16 to 20 years.	21 to 30 years.	31 to 40 years.
Males	..	1	7	6	7	5	3	1
Females	..	—	7	5	3	2	3	1

Dr. F. R. Tucker, temporary Resident Medical Officer of the Halstead Isolation Hospital from the 7th October, 1938, to 15th January, 1939, in a report on the orthopædic aspect writes :—

“ In the recent epidemic of Acute Anterior Poliomyelitis in the County of Essex during the last six months of 1938, eighty diagnosed cases requiring orthopædic investigation and treatment were admitted to the Halstead Isolation Hospital.

DIAGNOSIS AND INVESTIGATION.

The question of diagnosis and physical signs are dealt with later in the report. The physical findings of utmost importance and greatest consistency in the early stages were spinal and neck rigidity, together with muscular weakness.

A thorough examination of the muscular system is important. All grades of paralysis may be encountered varying from a mild paresis to a total paralysis. It may be restricted to a single muscle group or involve the muscles widely. It was our practice to examine the individual muscles, grade the muscular paralysis and record it upon special charts. With very ill patients a quick examination with relative grading is adequate for the time. When the acute symptoms subsided the routine grading was then carried out.

For simplicity the paralysis was divided into four grades :—

- (1) Slight weakness.
- (2) Marked weakness, unable to act against slight resistance.
- (3) Severe paralysis, a flicker of contraction, muscles acting but unable to move the limb.
- (4) Total paralysis, no muscle contraction detected.

The muscle testing was repeated in four weeks and subsequently at intervals of six weeks. Opposite the affected muscles the result of examination was recorded and any future progress charted.

The series of eighty cases have been classified as follows :—

Mild or abortive	..	..	21.2 per cent. (17 cases)
Paralytic	..	..	78.7 „ (63 cases)

Three of the latter group died of respiratory or cardiac failure ; the remaining sixty cases constitute the basis of this report.

There are 33 males and 27 females. The average age was 10 years, although fifteen of the patients (25 per cent.) were over the age of 16 years and their average age was 23 years. The eldest patients were of 35 and 38 years. At the time of this report the average duration of hospitalisation was 3.2 months.

The lesions were grouped according to the part of the body affected. The frequency of the various lesions are enumerated below :—

Neck	..	..	..	4.6 per cent.
Right upper extremity	..	..	..	11.8 „
Left upper extremity	..	..	..	12.5 „
Spine	..	..	..	11.8 „
Abdomen	..	..	..	9.8 „
Bladder	..	..	..	3.2 „
Right lower extremity	..	..	..	23.1 „
Left lower extremity	..	..	..	23.1 „

The 60 paralytic patients averaged 2.5 lesions each. The lesions of the upper extremities constituted 24.3 per cent., the abdomen and spine 21.6 per cent. and the lower extremities 46.2 per cent.

TREATMENT.

On admission to the hospital all patients, after the degree of muscle testing permissible, were immobilised. In cases where the general paralysis was serious, we contented ourselves with the use of sandbags, padded wire, splints and sedatives. When the pyrexia dropped, the general irritability of the patient diminished and the respirations approached normal, the routine method of immobilisation in plaster was adopted. From our experience the sooner proper immobilisation was obtained the more rapidly did muscle pain disappear. In some cases it was dramatic. The type of plaster splint used depended upon the site of the paralysis and the multiplicity of the lesions.

The usual position of the joints for immobilisation was, foot, neutral position of inversion and eversion with the ankle joint at 90° flexion ; knee, flexed about 5°, hip abducted 15°, with neutral position of rotation ; slight lordosis of the lumbar spine, shoulder flexed to 20° and arm abducted to 90°. Full lateral rotation was adopted to give preferential rest to the muscles which frequently act against gravity. The elbow was flexed to 90° ; the forearm in the mid-prone position, the wrist and fingers in the neutral position.

Where a marked difference in the severity of the paralysis of opposing muscles existed, the position of splinting was altered to give preferential rest to the weaker muscles. Certain muscles have been notorious in their response to treatment, and as the majority of these muscles are of prime importance for the future use of the limb they were given first consideration. The muscles referred to are quadriceps, tibialis anterior and posterior, psoas major, and opponens pollicis. Simple padded plasters were used for lesions affecting the foot or leg. They were bivalved to permit physio-therapy.

For paralysis restricted to one upper extremity an initial plaster spica was applied with the arm in routine position. These spicas tended to be heavy and uncomfortable no matter how carefully they were made. At the first opportunity light duralumin abduction splints were obtained. Plaster beds were frequently used. They were adopted for lesions of the spine, abdominal muscles, ilio-psoas, glutei and for lesions of two or more limbs. They result in absolute immobilisation of the patient. Nursing is made easier and the patient is surprisingly comfortable in them. With an efficient plaster team the plaster bed can be made accurately and quickly by the "sheet method" without tiring the patient. The plaster was applied over a form-fitting layer of felt and moulded accurately to the body contours. The position of the joints must be carefully observed. The foot pieces can be made separately or, as in the case of the arm and head pieces, they may be incorporated in the one shell. After trimming and drying, the felt lined shells were covered on the inner side with lint and on the outside with calico. The lint and calico were sewn together at the edges of the shell and at the edges of the nursing gap. The plaster bed was then mounted on a specially constructed wooden frame which supported the body of the shell and also the foot, arm and head extensions, and was of sufficient height to facilitate nursing.

Initially the patients were immobilised for six weeks and then massage and muscle re-education instituted. With the acquisition of a specially constructed bath hydro-therapy with active or passive movements was adopted at a much earlier stage in convalescence. With the patients admitted towards the end of the epidemic it was our practice to commence the baths when the temperature was normal and all muscle tenderness had disappeared. Usually this occurred two weeks after admission. The warmth of the water and the diminution of friction and the pull of gravity allow a surprising degree of movement. This has a great psychological effect upon the patient. Galvanic or faradic stimulation was used in selected cases. It was used, for example, in paralysis of biceps femoris or semi-tendinosus, and semi-membranosus where the affected muscle was the passenger in the movement of flexion of the joint. In this case active and passive movement were of no value and electrical stimulation was used to maintain the muscle tone.

RESULTS OF TREATMENT.

Broadly speaking the muscles of the lower extremities respond less readily to treatment than the muscles of the upper extremities. The tibial muscles quadriceps psoas, gastrocnemius, soleus, gluteus maximus and the hamstrings have been the worst offenders. The deltoid and the opponens pollicis have been the most trouble-some muscles of the upper extremity. The peronei, biceps and triceps show a high percentage of improvement."

CONTROL.

Dr. Camps, on the subject of control, writes as follows :—

"In considering the problem the primary concern is with the epidemic outbreak, although it would appear desirable to investigate the close contacts and schools with which any case of notified Acute Anterior Poliomyelitis may be associated. Some prearrangement and standardisation of control measures is essential in order that in the event of a sudden outbreak full facilities may be available at once.

The problem may be summarised under two main headings :—

- (1) Early diagnosis and adequate treatment facilities.
- (2) Measures to prevent other persons being infected.

Early diagnosis and treatment. Although to give this priority may seem unusual, it has been done because without early diagnosis preventative measures are of no avail. In the same way early diagnosis is essential for adequate treatment, especially in view of the observations made by Dr. Ranson earlier in the report upon the influence of exercise, observations which are in agreement with those already made by other workers.

EARLY DIAGNOSIS.

Education of doctors and nurses.

During the epidemic circular letters were sent to all practitioners, in the affected areas in Essex and later in the surrounding districts, informing them of the outbreak and at the same time outlining the clinical features of the disease and the facilities available for diagnosis and treatment. An example of one of the letters sent out to medical practitioners is as follows :—

"In connection with the recent outbreak, you may find that the following summary of events are of interest.

Since July 1st, 16 cases have been notified in Halstead, and within a radius of three miles.

Four cases occurred simultaneously in an Institution in the Dunmow Rural District in the week ended July 16th. The incubation period has now elapsed without any further cases coming to light in this district.

Three cases in two houses a mile apart occurred in Braintree; two in one house on July 16th and the third on July 22nd.

I am enclosing for your information the most recent memorandum on Poliomyelitis issued by the Ministry of Health (Memo. 166/Med.), and I should like to take the opportunity of calling your particular attention to page three, where the clinical manifestations of the disease are set out, and of emphasising the fact that the onset may be so similar to that of certain other infectious diseases that you may consider it desirable to confine to bed for several days a sick child whom you may be called to see, and whom you may have reason to suspect may be suffering from poliomyelitis. The temporary remission of symptoms after two or three days, to which attention is called in the memorandum has occurred in some of the cases and confinement to bed is not only a remedial measure, but it serves also to isolate a possible source of infection. Might I suggest too, that in these circumstances, it is advisable to enquire into the health of the other members of the family, bearing in mind that psychical phenomena and changes in temperament not infrequently precede the physical manifestations of Poliomyelitis. It is obvious, inasmuch as no single common factor of epidemiological importance other than living in the same vicinity has been detected, that the infection is maintained probably by healthy carriers, and by unattended or possibly overlooked cases. This is in accordance with previous experience.

I need hardly add that, as yet, there are no readily available practical means of detecting a carrier, and that any assistance which my department can afford is at your disposal."

On closer consideration and in light of our experiences in the epidemic it would appear better to take an even wider view and circularise not only the practitioners but also the district nurses and, in addition, to send a "reminding" letter at the beginning of each summer outlining the diagnostic features and facilities available, and again later in the year to send out a further circular setting out the clinical features peculiar to the cases of the particular year.

The general publicity was brought about by posters which were exhibited in the towns, setting out the symptoms and signs obvious to laymen, and recommending that early medical advice should be sought in connection with any case which was at all suspicious. They also incorporated advice against mixing in crowds and a suggestion that gargling with 1 in 5,000 permanganate of potash should be carried out.

MEASURES TO PREVENT OTHER PERSONS BEING INFECTED.

The more this aspect of the control of the disease is considered, the more apparent does it become that two factors handicap any attempt to clear up any comprehensive measures; firstly, our lack of knowledge, and secondly, a super method of identifying the virus. It is, therefore, perforce a question of producing the least harmful rather than the most satisfactory scheme, for any method which aims at complete satisfaction of all criteria demanded would immediately bring the whole life of the community to a standstill.

Certain facts must be taken into consideration, and the most important of these is that although adults may contract acute anterior poliomyelitis it is chiefly a disease of children under the age of 12 years, and hence they must be the first consideration both from the point of view of protection, and as potential sources of infection. Two lines of defence present themselves, firstly the prevention of spread by a known case, and secondly, the avoidance of the risk to non-immunes from unknown cases or carriers. It is proposed, therefore, to discuss control measures under these two headings.

PREVENTION OF SPREAD BY A KNOWN CASE.

The first and most important factor must, of course, be early diagnosis, and this has already been mentioned. Once diagnosed the patient should be immediately removed to hospital which will leave behind the following potential sources of danger to the community :—

Contacts about to develop the disease either in Clinical or Abortive Form.

Into this category will fall all members of the household, but more particularly the children. Everyone must therefore be watched for any signs of febrile illness, immediately isolated in bed if such occurs, and medical advice sought. At the same time, the entire household should gargle with potassium permanganate. Should the patient develop clinical signs, then it should in its turn be removed to hospital. If, as is more probable, the pyrexial illness should pass off, then the case must be considered as an abortive one, and isolated from the rest of the household for a period.

Contacts who may have become healthy carriers.

Again this applies to all members of the household. It is obviously impossible to stop the workers of the house from earning their living, but as far as possible they should avoid contact with other members of the family, and particularly with known or suspect cases especially the children. In the same way they should avoid unnecessary contact with their fellow workmen, and should certainly not visit their houses, go into shops or to cinemas. Again gargling is at least some gesture and may be of value. The children of the family should not leave their own house or garden, and should not play with other children. In the same way the mother should not visit her neighbours or friends, and should keep away from shops as far as possible. Tradesmen should not enter the house. The question of period of quarantine is debatable, but two weeks should be adequate. Before leaving this there is one aspect which should be particularised. Many families have amongst them a girl who is in domestic service. If living away from home she should be forbidden to visit her family during the quarantine period, and if a daily worker she should cease to continue her work, especially if there are children in her employer's family. (A probationer-nurse, aged twenty, from the Essex County Hospital, Colchester, visited her home in Halstead at weekends, and contracted the disease on the 17th August, 1938).

These then are the only methods available to prevent the infection being carried, but there are obvious loop holes, and to combat these a second line of defence must be organised.

VISITS BETWEEN FRIENDS, PARTIES, ETC.

It does appear essential that these should be reduced to a minimum during an epidemic, and that such visits should as far as possible be limited to meetings in the open air. This can only be done by education.

VISITS TO CINEMAS, BATHING POOLS, PUBLIC MEETINGS, ETC.

Cinemas. Looked on from the most impartial point of view, this crowding together into a confined space suggests a most appalling potential source of infection, but at the same time the various interests must be considered. Nevertheless it would not inflict gross hardship if the co-operation of the cinema owners were asked in refusing admission to any child under the age of 12 years.

Bathing Pools. These do not appear to be dangerous—being for the most part in the open, but again the attendance of children under the age of 12 should be discouraged. I have been unable to obtain any evidence of the viability of the virus in the water.

Public Meetings. These should be discontinued during an epidemic.

Visits to shops. The housewife must do her shopping, but she should be discouraged from unnecessary standing about or gossiping and should not take her children with her.

SEASONAL GATHERINGS, HARVESTING, FAIRS, ETC.

Harvesting cannot be interfered with and does not appear to offer great risks, being in the open air.

Fairs. These again are of great potential danger as they pass from place to place. It is of some interest to note that the fair owner is just as frightened of the disease and hence will, if notified, give the infected area as wide a berth as possible.

TRANSPORT.

This appears to be a rather neglected potential source of infection. It appears to be the only explanation of the scattering of cases throughout the villages. Unnecessary travelling in buses is to be deprecated and this applies particularly to children.

SPECIFIC CONTACTS OF CHILDREN.

It is in this connection that some difference of opinion existed during the epidemic.

It is perhaps unfortunate that at the moment a perfectly correct attitude about the closing of schools during epidemics of infectious diseases has

commenced to be adopted. It has been quite properly suggested that a child is more likely to contract such a disease whilst playing with its friends if the school is closed, and at the same time more likely to be diagnosed if under the constant supervision of its teachers, and hence that schools should remain open during epidemics. But can infantile paralysis be placed in the same category as measles or mumps? I would submit that it is absolutely indefensible for a child to be given even the smallest extra chance of contracting such a disease with its dreadful sequelæ. Closure of the schools should be coexistent with advice to the parents that they should not allow their children to mix with others at play, and strict instructions should be given that they should keep them under supervision in their own homes.

These then would appear to be control measures which could be reasonably adopted during an epidemic, and are based upon such knowledge as is at present available, at the same time appreciating the danger of too harsh regulations and that recommendations rather than orders avoid compensation claims.

Control measures must be placed under three headings :—

Early Diagnosis.

Education of doctors and nurses.

Education of the public.

Additional diagnostic facilities.

Early and full Treatment.

Continuity of treatment with full facilities for orthopædic and physiotherapy will follow up if possible in special hospitals.

Prevention of persons becoming Infected.

By prevention of spread from a known case.

By prevention of risk of infection of non-immunes from unknown sources."

CONCLUSION.

From the foregoing it will be seen that during the year 1936 there were 71 notifications of Acute Anterior Poliomyelitis in the Administrative County of Essex, 62 in 1937, whilst in the year 1938 there were 181, of which 174 occurred during the period 1st July to 31st December, 1938, chiefly in the north-eastern portion of the County.

The outbreak caused a great deal of public alarm and anxiety and in some cases dislocation of business in connection with shopping, cinemas, swimming pools and public meetings. Concerted action by all the authorities concerned was the only means of combating an epidemic of this kind with any degree of success. It should be realised that under present legislation, various authorities are concerned, namely, Local Sanitary Authorities, Education Authorities, Maternity and Child Welfare Authorities, Isolation Hospital Boards and County Authorities, each having their own responsibilities, which, if not welded together and synchronised are likely to lead to confusion and delay.

It was fortunate that in this particular instance the two local Medical Officers of Health mainly concerned, one of whom was also Medical Superintendent of the local

Isolation Hospital, consulted the County Medical Officer at the outset, with the result that all the County Council specialist and laboratory services were made available, including a consultant physician, who was able to make early diagnosis and visit the homes of doubtful cases, and also including specialists for the early treatment of orthopædic conditions. Conferences were arranged with the various authorities above-mentioned, with a view to a settled policy in regard to treatment, which proved of great value, particularly when the outbreak extended to other areas in the County.

One aspect which deserves special mention is that in the early days of this outbreak it was considered good policy by many people to attempt to avoid alarm and anxiety to members of the public by minimising the seriousness of the disease and its consequences. It does not appear that if this policy had been carried out it would have been successful. The British people do not mind being told the truth, but any idea that something is being withheld is likely to increase suspicion and alarm. Accordingly, I think it is excellent policy to tell the public the exact facts of the situation. Agreement should also be reached by all the authorities concerned in connection with school closures or exclusion from school, and the prevention of visitors going to institutions or hospitals situated in epidemic areas. Attention is drawn to the remarks of Dr. Camps on page 34, under the heading "Specific Contacts of Children."

Nevertheless, from the experience gained one cannot but emphasise the need for consideration being given for steps to be taken to improve the present situation, as it should not depend upon the personal factor of hospital boards, officials and others to ensure co-operation in establishing the best possible means of dealing with an epidemic of this kind. The following points might well be considered :—

- (1) One authority should be responsible for all hospital administration, including isolation hospitals, at no distant date.
- (2) Until that date the local Medical Officer of Health, in whose area the Isolation Hospital is situate, should be the Medical Superintendent of the Hospital, or if not, be closely associated with its administration.
- (3) The services of a Consultant Physician should be available for visiting the homes and making the diagnosis there of doubtful cases.
- (4) An efficient service for orthopædic treatment of patients, both during the early stages and for after treatment, is essential. This necessitates close co-operation between the Isolation Hospital Authority and the Authorities responsible for orthopædic treatment of patients.
- (5) Prompt action should be taken in epidemic periods by local authorities regarding advising the public of the facts and discouraging crowded assemblies as far as possible, avoidance of gatherings of young children and preventing them from entering any house where there is a case of illness.
- (6) It would appear advisable that for the next few years every Medical Officer of Health should advise, towards the middle of summer, medical practitioners and others of the possibility of this disease occurring, so that the early cases will not be overlooked.

TABLE V.

36A

STATEMENT SHOWING NUMBER OF CANCER PATIENTS ADMITTED TO E.C.C. HOSPITALS AND INSTITUTIONS DURING 1938.

1935-36

Sites.	I. Patients admitted after previous advice or treat- ment at another hospital providing radiation as well as operative treat- ment. Total Number 127 :—		II. Patients admitted after previous advice or treat- ment at another hospital providing operative but not radiation treatment. Total Number 106 :—				III. Patients admitted without previous advice or treatment at another Hos- pital. Total Number 185 :—		
	(a)	(b)	Treated at that Hospital.		Not treated at that Hospital.		(a)	(b) Numbers referred for ; advice and/or treat- ment to :—	
	Numbers treated at that Hospital.	Numbers not treated at that Hospital.	(a)	(b)	(a)	(b)	Numbers retained in Council's Hospital.	(i)	(ii)
			Numbers retained in Council's Hospital.	Numbers referred for advice and/or treatment to a Hospital providing radiation treatment.*	Numbers retained in Council's Hospital.	Numbers referred for advice and/or treatment to a Hospital providing radiation treatment.*		Hospital providing operative treatment.	Hospital providing radiation as well as operative treatment.*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Uterus	11	—	—	—	12	—	14	—	1
Tongue and Month ..	11	—	—	—	—	—	6	—	—
Breast	22	1	9	—	3	—	31	—	—
Lip	—	—	1	—	—	—	5	—	—
Skin	4	—	—	—	9	—	11	—	2
Larynx	—	—	—	—	1	—	5	—	—
Bladder	17	—	12	—	—	—	18	—	—
Rectum	14	2	14	—	10	—	14	—	—
Other sites	45	—	15	2	18	—	77	—	1
Total	124	3	51	2	53	—	181	—	4

*Those cases in which the radiation treatment was given at the same hospital as the operative treatment.

*Those cases in which the radio-therapist gave advice or treatment within the Council's hospitals are included in the (b) columns of II. and III., but are excluded from the (a) columns.

CANCER.

The number of deaths occurring in the County from cancer and malignant disease, during the year 1938 is shown in the table below. The death rate per 1,000 of the population increased from 1.49 in 1937 to 1.55 in the year under review :—

	Age Period.											Total.
	0—	1—	2—	5—	15—	25—	35—	45—	55—	65—	75—	
Borough and Urban Districts	—	1	4	2	9	24	102	265	435	580	352	1774
Rural Districts	—	—	—	1	2	3	10	46	79	142	97	380
Total for Administrative County	—	1	4	3	11	27	112	311	514	722	449	2154

On 29th March, 1939, the Cancer Act, 1939, received the Royal Assent. The primary object of the Act is the establishment of a service under which facilities for the diagnosis and treatment of cancer will be available to all who are, or are suspected to be, suffering from the disease. It is the duty of County and County Borough Councils to make arrangements to secure that facilities are adequate and submit within twelve months from the commencement of the Act, a scheme to the Minister of Health. The scheme so submitted should include arrangements :—

- (a) For facilitating the diagnosis of Cancer ;
- (b) For the treatment of Cancer either in Hospitals maintained by the Council or in Hospitals maintained by other Councils or Local Authorities or in Voluntary Hospitals ;
- (c) For the payment, in such cases as the Council considers necessary, of all or any travelling expenses (including the travelling expenses of a companion), reasonably incurred by persons for the purpose of availing themselves of the services provided under the arrangements ;
- (d) For such other matters as appear incidental to or consequential on the arrangements for the treatment of Cancer.

Particulars of the Council's scheme will be given in due course.

During the year 1938, 418 patients suffering from various forms of cancer were admitted to hospitals and institutions belonging to the County Council. Table V on page 36a gives an analysis of these cases.

VENEREAL DISEASE.

The County Council continues to participate in the London & Home Counties Scheme whereby Essex patients attend for advice and treatment at many of the London Clinics. Clinics are also available as follows :—

Oldchurch County Hospital, Romford.
 Essex County Hospital, Colchester.
 Chelmsford & Essex Hospital, Chelmsford.
 East Suffolk & Ipswich Hospital.
 Borough Sanatorium, Southend.
 Ad hoc Clinic, Gravesend.
 Prince of Wales Hospital, Tottenham.

Oldchurch V.D. Clinic.

The outstanding event in the V.D. Scheme during the year was the opening in September, 1938, of the new Clinic at the Annexe, Oldchurch County Hospital, Romford. This differs from the other V.D. Clinics in the County in that it is open all day (from 9 a.m. to 8 p.m.) and is equipped with a whole-time staff of one Sister, one Staff Nurse and two special treatment Orderlies. Up to the present four sessions have been conducted each week by the V.D. Medical Officer, but it is anticipated that it will be necessary to add further sessions in the near future as the Clinic develops.

From September, 1938, after the opening of the Clinic up to the end of December, 1938, the number of patients (including transfers from other Clinics) taken on the books was 246, a figure which exceeds the total number of cases for the whole year in the other two County Clinics combined (Colchester and Chelmsford).

Attendances at Clinics.

It is anticipated that with the advent of the sulphonamide group of drugs for treatment of gonorrhœa, the period of attendance for intermediate treatment will be considerably shortened, and that therefore a considerable decrease in attendances at the various Clinics will be recorded next year.

Table VI on page 39 shows the attendance of Essex patients at the various Clinics, from which it will be seen that the total number of attendances has decreased from 63,786 to 60,345; this is accounted for by the decrease of 11,556 attendances at the London Clinics, but is counterbalanced by an increased attendance from 4,042 to 5,156 at Colchester, at Chelmsford from 616 to 1,144 and at Oldchurch from Nil to 4,433.

The number of cases of V.D. or suspected V.D. who reported for the first time increased from 1,591 to 1,885.

Travelling Facilities for Patients.

During the financial year ended 31st March, 1939, fares of necessitous patients to and from the nearest Clinic were paid by the Council at a cost of £250 8s. 11d.

Propaganda.

As referred to in last year's report, the campaign against venereal diseases was continued by a series of lectures at mass meetings held in Chelmsford on 31st January, 1938, and in Colchester on 28th March, 1938. These meetings were organised by the Essex County Council in conjunction with the British Social Hygiene Council, who showed an appropriate cinema film after the address.

TABLE VI.

TREATMENT OF VENEREAL DISEASE, YEAR 1938.

Treatment Centre.	Patients from all Areas. Total No. treated for first time.	ESSEX PATIENTS							In-patient Days.	Hostels. In-patient days.
		Total Number treated for first time suffering from					Total No. of Attendants of Essex Patients.			
		Syphilis.	Soft Chancere.	Gonorrhoea.	Not V.D.	Total.				
London Hospitals	...	25,897	87	7	454	733	1,281	4,418	3,672	1,749
St. Bartholomew's, London...	...	954	4	—	6	8	18	232	—	—
Romford	...	184	38	—	86	54	178	4,433	758	—
Chelmsford	...	80	10	1	35	34	80	1,144	1	—
Colchester	...	142	14	—	55	64	133	5,156	143	—
Ipswich	..	354	5	—	1	4	10	181	9	—
Southend	...	291	6	—	33	31	70	1,803	—	—
Gravesend	...	212	13	—	15	29	57	1,372	—	—
Tottenham	...	574	7	—	20	31	58	1,606	82	—
Total for 1938...	...	28,688	184	8	705	988	1,885	60,345	4,665	1,749
Total for 1937...	...	28,213	174	6	601	810	1,591	63,786	3,785	2,412
" 1936...	...	28,447	157	14	540	821	1,532	67,092	3,155	1,117
" 1935...	...	30,727	181	23	612	769	1,585	76,307	2,750	1,466
" 1934...	...	30,719	245	19	731	644	1,639	72,442	2,663	1,419

It is proposed to hold a series of these meetings each year with the idea of enlightening the mind of the public regarding the dangers of these diseases, and dispelling the cloud of ignorance which prevails regarding the symptoms and after-effects of venereal disease.

The Department is greatly indebted to Alderman C. W. Daines, J.P., Chairman of the Sanitary and Health Sub-Committee, for his willingness to officiate as Chairman at these meetings and for his efforts to bring home to the public the fact that these diseases do exist in the community and that these problems must be faced squarely.

During July a series of three lectures on sex teaching was delivered to the Senior Girls of the Romford High School under arrangements made by the British Social Hygiene Council, who were also responsible for a series of nine lectures delivered to Rover Scouts at Stanford-le-Hope, Colchester and Snarebrook in October.

The cinema film, "The Price of Ignorance," was exhibited at four performances daily from Monday, 4th July, to Saturday, 9th July, at the Regal Cinema, Leytonstone.

The main efforts during the year were to increase the efficiency of the treatment for syphilis and gonorrhœa, and it is considered that this greater efficiency has been secured by systematic following up of defaulters and by more regular attendance of patients.

Attention has been paid to arranging the hours of sessions to suit the convenience of patients, and the modern equipment provided by the Council has aided in promoting greater thoroughness in the treatment and standard of cure for gonorrhœa. One of the objects aimed at was to investigate the source of the infection as well as to treat the patients; whenever possible the patients were persuaded to bring the persons who had infected them to the Clinic for examination, and it is noteworthy that many of those who had transmitted V.D. were unaware that they were suffering from that disease.

Considerable advantage and encouragement were obtained by close touch with the Ministry of Health, Col. Harrison's advice and suggestions being of the greatest service.

VACCINATION.

During the year ended 31st December, 1937 (the latest period for which complete information is available), the Vaccination Officers' returns summarised in Table VII show that 18,032 births were registered. Of these 5,819 were successfully vaccinated, and in 9,583 instances a statutory declaration of conscientious objection was made. Of the remaining 2,630 births, 656 removed to places unknown; 519 removed to districts of other Vaccination Officers who were duly notified; in 145 cases vaccination was postponed by medical certificate; 78 proved insusceptible of vaccination, and 600 died unvaccinated. At the end of the year 632 births remained which had not been entered in the vaccination register or temporarily accounted for in the report book.

With regard to the number of persons successfully vaccinated and revaccinated at the cost of the rates by Public Vaccinators and Medical Officers of Poor Law Institutions, the Clerk of the County Council has kindly forwarded to me the following information in respect to the year ended 30th September, 1938 :—

TABLE VII.

Guardians Committee Areas.	No. of Births in "Birth List Sheets" registered 1st Jan. to 31st Dec., 1937.	No. of these Births entered by 31.1.39 in Cols. I, II, IV and V of the "Vaccination Register" (Birth List Sheets), viz. :—				No. of Births which on 31.1.39 remained unentered in the "Vac- cination Register" on account of :—				No. of these Births remaining 31.1.39 neither entered in the "Vaccination Register" nor temporarily accounted for in "Report Book."	No. of Certificates of successful Primary Vaccination of Children under 14 received during 1938.	No. of Statutory Declarations of Conscien- tious objection received by V. O. during 1938.
		Col. I. Success- fully vacci- nated.	Col. II.		Col. IV. Col. V. No. of Died Statu- un- tory vaci- Decla- nated. rations.	Postpone- ment by medical certifi- cate.	Removal to Districts the Vaccination Officer of which have been apprised.	Removal to places to unknown and cases not found.				
			Insus- ceptible of vacci- nation.	Had Small- pox.								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Braintree ..	719	250	3	—	423	13	4	11	8	7	267	404
Chelmsford ..	1,880	688	12	—	945	43	21	72	52	47	793	997
Colchester ..	2,087	753	8	—	1,144	69	1	44	64	4	932	1,105
Epping ..	591	272	6	—	229	14	—	28	17	25	286	213
Saffron Walden ..	416	188	4	—	186	12	2	4	16	4	248	190
Southern ..	6,848	2,171	20	—	3,579	256	62	165	261	334	3,095	3,640
South Eastern ..	1,902	419	5	—	1,039	75	24	135	79	126	523	731
South Western ..	3,589	1,078	20	—	2,038	118	31	60	159	85	1,643	2,030
	18,032	5,819	78	—	9,583	600	145	519	656	632	7,787	9,310

The Totals of the figures in columns 3 to 11 agree with the figure in Column 2.

Number of successful Primary Vaccinations of persons :—

(a) Under 1 year of age	..	..	..	5147
(b) 1 year and upwards	..	..	..	644
(c) Total	..	..	..	5791

Number of successful revaccinations, *i.e.*, successful vaccinations of persons who have been successfully vaccinated at some previous time

..	286
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ISOLATION HOSPITALS.

Table VIII on page 42a shows the number of beds provided on the basis of 2,000 cubic feet per bed, the number of patients treated, and the cost per patient per week at each of the fourteen Isolation Hospitals which receive grants from the Essex County Council (Clacton Isolation Hospital was closed on 31st March, 1937). Such grants are at the rate of £5 per annum per bed provided out of loan, plus £10 per annum in respect to each ambulance maintained by a Hospital in an efficient condition. In addition, grants at the rate of £2 10s. 0d. per bed, per annum, provided out of revenue were paid in respect to the hospitals at Colchester (40 beds), Dunmow (4 beds), Halstead (4 beds) and Thurrock (48 beds).

There was again a decrease in the number of patients treated in hospital, the figure falling from 4,430 in 1936-37 to 4,404 in 1937-38. Consequently, the average cost per patient increased from £31 15s. 10d. in 1936-37 to £33 11s. 2d.

EXAMINATION OF BACTERIOLOGICAL SPECIMENS.

Dr. E. V. Suckling has kindly supplied the following report on the work undertaken during the year 1938 :—

The total number of specimens examined during 1938 was 32,966, which is an increase of 859 specimens compared with the number received in the previous year.

These specimens can be divided into the following groups :—

A. <i>Samples of Water and Sewage Effluent</i>	..	1,039
B. <i>Samples of Milk, Ice-cream and Foods</i> ..	..	1,358
C. <i>Pathological Specimens.</i>		
Received from Infectious Diseases Hospitals, Voluntary Hospitals and Sanatoria, Medical Officers of Health and Medical Practitioners	..	28,524
D. <i>Pathological Specimens.</i>		
Received from Oldchurch Hospital, Romford	..	1,251
E. <i>Received from Public Assistance Institutions</i>	..	792

Group A. Samples of Water and Sewage Effluent.

The samples of this Group are differentiated as follows :—

(1) Samples of Drinking Water	..	..	580
(2) Samples of Sewage Effluent	..	..	340
(3) Samples of Swimming Bath Water	..	..	65
(4) Deposits for Investigation	..	..	3

TABLE VIII.

Showing Accommodation, Number of Cases treated, Cost per Bed, etc., at those Isolation Hospitals for which Grants for Beds provided out of Loan were recommended for the Year ended 31st March, 1938.

	Billericay.	Braintree.	Chelmsford.	Colchester.	Dunmow.	Halstead.	Ilford.	Maldon.	Rochford.	Romford.	Saffron Walden.	Thurrock.	Walthamstow.	Waltham Joint.	TOTAL.
Number for purpose of Grant	30	14	21	58	8	16	150	10	12	235	16	48	81	130	929
Grant from County Council	£170	£80	£115	£300	£50	£90	£770	£60	£70	£900	£90	£270	£425	£680	£4070
<i>Cases treated during year:—</i>															
Diphtheria	77	3	16	68	1	1	90	4	60	407	2	49	168	100	1021
Scarlet Fever	151	15	177	116	6	12	267	47	73	802	38	250	172	153	2278
Typhoid	2	1	...	3	...	2	10	...	...	...	...	1	7	7	33
Other Diseases	29	11	16	*150	5	10	†224	15	...	413	12	92	†26	69	1072
Total number of cases treated	259	30	209	331	12	25	691	66	123	1622	52	392	363	329	4404
Bed-Days	7133	900	5233	16066	308	499	30313	1913	4578	51212	1491	17979	12686	10991	161292
<i>Expenditure for the year:—</i>	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Repayment of Loans... ..	441 2 2	...	106 0 0	429 16 4	...	81 16 10	3989 10 5	42 0 3	40 1 8	5781 9 6	165 6 10	853 4 4	583 18 1	2777 18 10	16291 6 3
Interest on loan	367 16 8	...	8 0 4	319 5 10	...	23 18 11	2901 6 1	6 1 11	16 12 11	7197 7 0	50 6 5	618 0 11	366 6 1	2516 4 11	14391 7 0
Total	£ 808 18 10	...	113 0 4	749 2 2	...	105 15 9	6890 16 6	48 2 2	66 14 7	12978 16 6	215 13 3	1471 6 3	960 3 2	6294 3 9	29682 12 3
Structural Repairs	100 16 11	81 5 3	170 17 5	409 18 0	...	121 1 0	2433 13 2	41 2 4	68 10 0	2051 19 6	104 14 0	341 4 4	1068 1 10	213 9 4	7196 13 0
Food (Patients and Staff)	785 19 8	253 9 8	296 10 8	1284 12 0	49 15 1	187 12 9	4892 11 3	317 16 9	887 9 5	5989 7 7	212 3 6	2699 10 11	3977 0 11	947 9 3	22681 9 6
Estab. and Patients' Expenses	3036 7 5	1695 7 4	2571 10 7	6681 16 0	653 7 8	1110 16 6	17681 19 7	1372 11 11	1270 9 7	24495 15 1	809 13 0	6807 5 6	12342 15 6	9801 18 8	88231 13 10
Maintenance... ..	3923 4 0	2030 2 3	3038 18 8	7396 6 0	703 2 4	1419 10 3	24908 4 0	1731 11 0	2216 9 0	32537 2 1	1126 10 6	8748 0 8	17387 18 3	10962 17 3	116109 16 3
Overhead Charges	808 18 10	...	113 0 4	749 2 2	...	106 16 9	6890 16 6	48 2 2	66 14 7	12978 16 6	215 13 3	1471 6 3	950 3 2	6294 3 9	29682 12 3
Total	£ 4732 2 10	2030 2 3	3161 19 0	8125 8 2	703 2 4	1526 6 0	31799 0 6	1779 13 2	2273 3 7	45515 18 7	1342 3 9	10219 6 11	18338 1 6	16257 1 0	147792 8 6
Cost per patient per week	£ 4 12 11	15 15 9	4 4 3	3 10 10	15 19 7	21 7 11	7 6 10	6 10 3	3 9 6	6 4 5	6 6 0	3 19 7	10 2 4	10 7 1	6 8 3
" " Food, Struct. and Estab. Ex.	£ 3 17 0	15 16 9	4 1 3	3 4 4	16 19 7	19 18 3	5 16 0	6 6 8	3 7 9	4 8 11	6 5 9	3 8 1	9 11 11	6 19 8	5 2 6
Cost per case treated, 1937-38	£ 18 5 5	67 13 5	16 1 7	24 10 11	69 11 10	61 0 3	53 16 1	26 19 3	18 9 7	28 1 3	25 16 3	26 1 6	60 10 4	49 8 3	33 11 2
" " year 1936-37	£ 19 13 9	20 13 8	13 15 0	24 12 8	69 1 10	27 13 6	55 9 1	36 11 2	15 5 3	25 7 6	23 18 4	22 12 6	39 16 6	53 11 6	31 15 10

† Includes Tuberculosis cases treated under the County Council scheme.

The number of samples in this group shows an increase of 351 over that of 1937.

Most samples of water were submitted to both chemical analysis and bacteriological examination, with a very few samples submitted to chemical analysis or bacteriological examination only.

Samples of sewage effluent and trade waste, etc., were only examined chemically, except in special cases.

The samples indicated that the public water supplies of the County maintain a satisfactory standard of purity.

Sewage effluents and trade wastes discharged into watercourses are required to comply with two standards, *i.e.* :—

(a) Suspended Matter not to exceed 2.1 grains per gallon.

(b) Impurity Figure not to exceed 10.0 grains per gallon.

The 343 samples can be classified, on this basis, as follows :—

Satisfactory (complying with both standards) ..	45.8%
Unsatisfactory (failing both standards) ..	43.2%
Samples failing to pass the Suspended Matter standard only	6.7%
Samples failing to pass the Impurity Figure standard only	4.3%

Group B. Samples of Milk, Ice Cream and Foods.

1,050 samples of milk were examined bacteriologically, compared with 1,022 samples in 1937.

Ordinary Raw Milk.

The standards aimed at in the case of this milk are :—

Bacterial count not to exceed 200,000 c.c. and

Absence of coliform bacteria in 0.01 c.c.

Of the 450 samples examined, the results show :—

Satisfactory	291 = 64.6%
Unsatisfactory	159 = 35.4%

100 samples of ungraded milk were submitted to the Methylene Blue and Coliform bacteria tests, with the following results :—

Satisfactory to both tests	48
Unsatisfactory to both tests	41
Samples failing to pass the Methylene Blue test ..	3
Samples failing to pass the Coliform test ..	8

Graded Milk.

The results of the examinations of these samples were as follows :—

<i>Pasteurised Milk</i>	Total Number, 199.
Satisfactory	195 = 98%
Unsatisfactory	4 = 2%

Accredited, Tuberculin Tested and Tuberculin

<i>Tested Certified Milk</i>	..	..	Total Number, 296..
Satisfactory	..	..	234 = 79%
Unsatisfactory	..	..	43 = 14.5%
Samples failing to pass the Methylene			
Blue test	..	..	7 = 2.35%
Samples failing to pass the Coliform test			12 = 4.15%

Ice Cream.

304 samples of ice cream were examined, and judged by the Count standard that the bacterial count should not exceed 100,000 per 1 c.c., 2 samples or 8.5% were unsatisfactory.

Foods submitted in Cases of Suspected Food Poisoning.

Two samples of canned salmon were examined bacteriologically and proved sterile.

One specimen of chutney was examined for acidity, bacteriologically and also specially for bacilli of the dysentery group. This showed insufficient acidity, large numbers of saprophytic bacteria, but no dysenteric or other pathogenic organisms were found. One specimen of meat-paste and two specimens of canned brisling were examined bacteriologically but proved to be of satisfactory quality.

Other Specimens.

One sample of Oysters was examined bacteriologically and proved to be clean.

Two specimens of submaxillary gland from pig's head were examined for the presence of tubercle bacilli, with a positive result in one specimen.

Group C. Pathological Specimens.

The total number of pathological specimens in this group was 28,524, but the various specimens, and their examinations, are as follows:—

(1) *Swabs from Throat, Nose, Ear, etc.* 14,08

These swabs are mostly submitted in connection with Diphtheria and Scarlet Fever, and are examined culturally for Klebs Loeffler bacilli or hæmolytic streptococci, and microscopically for the organism of Vincent's Angina, etc., as requested.

Swabs examined culturally for Diphtheria bacilli only .. 10,05
667 or 7.1% of these swabs gave positive results.

Animal inoculation tests for virulence were carried out on 48 cultures of which 16 proved virulent.

Swabs submitted to general bacteriological examination,
microscopical and cultural 4,02

The majority of these specimens were sent primarily for examination for streptococci and staphylococci. Streptococci, when found, were differentiated into hæmolytic and non-hæmolytic strains.

(2) <i>Specimens of Sputum</i>	9,970
--------------------------------	----	----	----	-------

All specimens of sputum are examined by concentration methods before a negative result for tubercle bacilli is given and 3,523 or 35.3% gave positive results. Two positive results were obtained on examination for asbestosis bodies.

(3) <i>Specimens of Pus</i>	..	..	..	152
(4) <i>Specimens of Urine</i>	..	..	..	1,719
(5) <i>Specimens of Fæces</i>	..	..	..	881
(6) <i>Specimens of Cerebro-Spinal and other Body Fluids</i>	..			163
(a) Cerebro-spinal Fluids	..	..	..	72
(b) Pleural Fluids	..	..	..	77
(c) Other Fluids	..	..	..	14
(7) <i>Specimens of Blood</i>	..	..	..	1,311
(8) <i>Specimens of Hair and Skin Scrapings</i>	..	..		129
(9) <i>Specimens of Tissue—Histological Examinations</i>	..			37
(10) <i>Preparation of Autogenous Vaccines</i>	..	..		1
(11) <i>Animal Inoculation Tests</i>	..	..	..	81

Group D. Specimens submitted from Oldchurch Hospital, Romford.

The total number of specimens submitted in this Group was	..			1,253
(1) <i>Specimens of Blood</i>	..	..	..	67
(2) <i>Specimens of Fæces</i>	..	..	..	113
(3) <i>Specimens of Urine</i>	..	..	..	94
(4) <i>Specimens of Cerebro-spinal Fluid</i>	..	..		24
(5) <i>Specimens of Pleural Fluid</i>	..	..	..	52
(6) <i>Other Body Fluids from Joints, &c.</i>	..	..	..	25
(7) <i>Specimens of Pus</i>	..	..	..	39
(8) <i>Specimens of Sputum</i>	..	..	..	178
(9) <i>Swabs from Throat, Nose, Ear and Eye</i>	..	..		473
(10) <i>Specimens of Urethral, Vaginal and Cervical Swabs</i>	..			17
(11) <i>Specimen of Hair and Skin Scrapings</i>	..	..		1
(12) <i>Specimens of Tissue</i>	..	..	..	169
(13) <i>Animal Inoculation Tests</i>	..	..	..	119
(14) <i>Stomach Contents</i>	..	..	..	1

Group E. Specimens received from Public Assistance Institutions.

The number of specimens submitted from these Institutions was 792, and their type and examinations were as follows :—

(1) <i>Specimens of Blood</i>	..	..	..	22
(2) <i>Specimens of Fæces</i>	..	..	..	46

(3) <i>Specimens of Urine</i>	25
(4) <i>Specimens of Cerebro-Spinal Fluid</i>	
(5) <i>Specimens of Pleural Fluid</i>	1
(6) <i>Specimen of Joint Fluid</i>	
(7) <i>Specimens of Pus</i>	1
(8) <i>Specimens of Sputum</i>	32
(9) <i>Swabs from Throat, Nose, Ear and Eyes</i>	11
(10) <i>Specimens of Urethral, Vaginal and Cervical Swabs</i>	
(11) <i>Specimens of Tissue</i>	
(12) <i>Animal Inoculation Tests</i>	

	1936.	1937.	1938
<i>Group A.</i>			
Samples of Water, Sewage Effluents, Swimming Bath Waters, &c. ..	603 ..	688 ..	1,03
<i>Group B.</i>			
Samples of Milk, Ice Cream and other Foods	1,010 ..	1,231 ..	1,35
<i>Group C.</i>			
Pathological Specimens from Infec- tious Diseases Hospitals, Medical Officers of Health, Medical Practi- tioners, &c.	25,410 ..	28,785 ..	28,52
<i>Groups D and E.</i>			
Pathological Specimens from Old- church Hospital, Romford, and Public Assistance Institutions ..	1,134 ..	1,403 ..	2,04
Totals	28,157 ..	32,107 ..	32,90

The increase in the total number of specimens submitted for examination during the year is therefore 859 or 2.7 per cent. and 4,809 or 17.4 per cent compared with 1936.

Other laboratories are also utilised by the County Council in the direction indicated below :—

East Anglian Institute of Agriculture for the bacteriological examination of samples of milk obtained under the Milk (Special Designations) Order 1936 and 1938.

Mr. A. Leslie Sheather, D.Sc., M.R.C.V.S. Wroxton, Chorleywood, Hert. for the biological examination of samples of milk obtained from all the licensed and non-licensed farms in the Administrative County.

Dr. S. Roodhouse Gloyne, City of London Hospital, Victoria Park, E.2, for the bacteriological and biological examination of samples of milk obtained at or during delivery to schools under the Milk-in-Schools Scheme.

Chelmsford and Essex Hospital, Chelmsford, for the examination of specimens in connection with cases of puerperal fever and scarlet fever.

Oldchurch County Hospital, Romford, for the examination of routine specimens from patients at the hospital.

Black Notley Sanatorium for the examination of routine specimens from patients at the Sanatorium.

LOCAL GOVERNMENT ACTS, 1929 and 1933.

SECTION 57 (1929). Full details of the County Scheme for making contributions to District Councils were given in the report for 1934. Schemes for water supplies were submitted by the undermentioned Local Sanitary Authorities; the grants shown below were approved, or the Schemes were regarded as suitable for grant purposes under the Section 57 Scheme :—

Sanitary District.	Parish.	Purpose.	Estimated Cost. £	Grant. £
Ongar R. ..	Blackmore	.. Water Supply ..	4,825 ..	300*
	Willingale Spain			
	Willingale Doe			
	Shellow Bowells			
Ongar R. ..	High Ongar	.. Water Supply ..	8,500 ..	600*
	Abbees Roding			
	High Laver			
	Fyfield			
	Beauchamp Roding			
	Stondon Massey			
	Norton Mandeville			
	Moreton			
	Little Laver			

*Equivalent to that made by Ministry of Health under Rural Water Supplies Act, 1934.

GRANTS MADE FOR 1938-39. The County Council made the following grants in accordance with the provisions of the Section 57 Scheme in respect of the financial year 1938-39 :—

Rural District.	Amount of Grant. £
Braintree	2,264
Dunmow	2,251
Halstead	573
Rochford	1,084
Saffron Walden	2,872

In addition to the above, an amount of £587 was paid to the Chelmsford Rural District Council, being the loan charges in lieu of a capital grant of £12,000.

TABLE IX.

SHEWING NUMBER AND TYPE OF PUBLIC HEALTH SPECIMENS EXAMINED
BY THE BACTERIOLOGIST FOR ESSEX—YEAR 1938.

										Biolog. E		
SANITARY DISTRICTS.		Diph- theria.	Sputa.	Typhoid.	Ring- worm.	General.	Milk and Ice Cream.	Water.	Sewage.	Total Specimens examined.	Virulence Test.	Tubercle
URBAN—												
Barking B.	...	+1066	‡311	7	...	45	92	19	...	1540	...	...
Bentfleet	...	150	27	...	...	11	62	5	...	255	...	...
Billericay	...	+382	92	12	3	112	51	9	...	661	...	...
Braintree & Bocking	...	109	‡138	26	2	73	8	9	...	365	2	...
Brentwood	...	146	360	1	...	87	226	15	1	836	...	...
Brightlingsea	...	4	14	...	...	...	...	10	...	23	...	...
Burnham on Crouch	...	15	9	1	...	15	...	3	...	43	...	...
Canvey Island	...	13	2	...	...	...	5	...	...	20	...	...
Chelmsford B.	...	210	+102	3	1	39	24	2	...	381	...	...
Chigwell	...	407	30	...	...	53	1	...	...	491	...	...
Chingford	...	+190	270	9	...	200	28	9	...	706	2	...
Clacton-on-Sea	...	21	‡30	16	1	15	49	10	...	142	...	...
Colchester B.	...	+105	‡260	142	6	81	8	3	...	605	...	...
Dagenham	...	450	‡307	14	37	41	84	7	...	940	...	...
Epping	...	+27	‡84	6	2	67	...	1	...	187	...	...
Frinton & Walton	...	16	30	...	...	10	10	5	...	65	...	...
Halstead	...	+14	‡56	3	...	4	...	1	...	78	...	...
Harwich B.	...	68	‡58	2	...	4	8	...	...	140	...	...
Hornchurch	...	249	+2339	3	12	27	40	1	...	2671	...	...
Ilford B.	...	+423	‡816	76	1	3180	103	40	3	4642	27	...
Leyton B.	...	+1499	‡480	9	1	139	...	12	7	2147	...	...
Maldon B.	...	+97	‡29	3	2	121	5	9	...	269	1	...
Ravleigh	...	95	10	...	1	...	12	1	...	119	...	...
Romford B.	...	+225	+477	7	24	88	95	16	...	932	5	...
Saffron Walden B.	...	12	‡13	...	...	18	...	2	...	45	...	...
Thurrock	...	+700	‡297	123	15	131	87	2	...	1355	4	...
Waltham Holy Cross	...	+623	6	7	...	38	2	...	...	676	...	...
Walthamstow B.	...	137	+1041	25	17	1324	60	7	...	2611	1	...
Wanstead & Woodford B.	...	686	+188	8	...	65	52	...	...	990	...	...
West Mersea	...	2	22	8	...	9	...	1	...	42	...	...
Witham	...	20	20	...	...	20	8	6	1	75	...	...
Wivenhoe	...	16	...	...	...	3	3	3	...	25	...	...
Total		8171	7918	511	125	6023	1123	208	12	24091	42	
RURAL—												
Braintree	...	+442	+2009	1	3	330	2	26	...	2813	4	20
Chelmsford	...	+187	42	2	1	24	1	22	...	279	...	...
Dunmow	...	16	13	...	...	9	18	27	4	87	...	...
Epping...	...	85	32	9	...	65	20	1	1	213	...	...
Halstead	...	56	43	1	...	14	...	43	...	157	...	...
Lexden & Winatree	...	22	12	...	...	4	1	57	...	96	...	...
Maldon	...	22	4	...	...	...	1	16	...	43	2	...
Ongar	...	30	14	...	2	23	80	3	...	152	...	...
Rochford	...	+415	20	...	1	12	...	...	...	448	...	...
Saffron Walden	...	24	20	1	...	9	9	37	...	100	...	...
Tendring	...	29	14	1	...	13	...	45	1	108	...	...
Totals -	Rural	1328	2223	15	7	508	132	277	6	4496	6	20
	Urban	8171	7918	511	125	6023	1123	208	12	24091	42	...
Adminis. County		9499	10141	526	132	6531	1255	485	18	28587	48	30
										Specimens of Urine L.G. & O.O. Sup. Act	671	
										29268		

NOTE.—The above figures do not include specimens submitted from the Oldchurch County Hospital, Romford, see page 45.

† Includes specimens taken at Isolation Hospital in district.
‡ " " " Sanatoria or Dispensary.

TABLE X.
SHOWING PARTICULARS OF WORK CARRIED OUT BY LOCAL SANITARY AUTHORITIES UNDER THE PUBLIC HEALTH AND HOUSING ACTS DURING THE YEAR 1938.

NEW HOUSES ERECTED DURING 1938.					INSPECTION OF DWELLING HOUSES DURING THE YEAR.						No. of defective Dwelling Houses rendered fit in consequence of informal action by the Local Authority or their Officers.	ACTION UNDER STATUTORY POWERS.			HOUSING ACT, 1936—OVERCROWDING.												
SANITARY DISTRICT.	By				(a)	(b)	(c)	(d)	(e)	(f)		PROCEEDINGS UNDER SECTIONS 9, 10 AND 16 OF THE HOUSING ACT, 1936.			PROCEEDINGS UNDER PUBLIC HEALTH ACTS.		PROCEEDINGS UNDER SECTIONS 11 & 13 OF HOUSING ACT, 1936.		PROCEEDINGS UNDER SECTION 12 OF HOUSING ACT, 1936.		No. of Dwelling-houses overcrowded at the end of the year.	No. of families dwelling therein.	No. of persons dwelling therein.	No. of new cases of overcrowding reported during the year.	No. of cases of overcrowding relieved during the year.	No. of persons concerned in such cases.	
	Total.	The Local Authority.	Other Local Authorities.	Other Bodies or Persons.	Total No. inspected for Housing Defects under Public Health or Housing Acts.	No. of Inspections made for the purpose.	No. of Dwelling-houses (including sub-head (a)) which were inspected and recorded under Housing Consolidated Regs., 1925 and 1932.	No. of Inspections made for the purpose.	No. found to be in a state so dangerous or injurious to health as to be unfit for human habitation.	No. (excluding those referred to under (c)) found not to be in all respects reasonably fit for human habitation.		No. of Dwelling Houses in respect of which Notices were served requiring repairs.	No. of Dwelling Houses which were rendered fit after service of formal Notices.	No. of Dwelling Houses in respect of which Notices were served requiring defects to be remedied.	No. of Dwelling Houses in which defects were remedied after service of formal Notice.	No. of Dwelling Houses in respect of which Demolition Orders were made.	No. of Dwelling Houses demolished in pursuance of Demolition Orders.	No. of separate Tenements or Underground Rooms in respect of which Closing Orders were made.	No. of separate Tenements or Underground Rooms determined, the Tenement or Room having been rendered fit.								
													By Owners.	By Local Authority in default of Owners.	By Owners.	By Local Authority in default of Owners.											
URBAN.																											
BARKING B. ..	504	155	79	270	4013	8143	1210	2317	172	1439	1164	60	67	5	295	203	15	..	..	..	156	156	1129½	29	63	425
BENFLEET ..	332	..	..	332	433	1287	123	521	4	185	129	1	..	1	7	9	1	1	1	..	2	2	19	2	2	12
BILLERICAY ..	203	..	7	196	298	593	94	230	45	71	2	75	50	..	166	130	..	2	1	..	56	56	251	9	41	243	
BRAINTREE & BROOMING	309	116	..	193	85	42	42	42	42	43	17	3	3	..	27	15	..	2	3	..	8	8	63	5	22	128	
BRENTWOOD ..	204	12	16	176	239	1124	37	146	27	59	58	11	7	..	1	1	..	4	9	5	14	14	97½	..	13	72½	
BRIGHTONSEA ..	15	..	..	15	41	41	33	33	..	31	36	..	..	..	7	7	..	..	..	..	4	4	33	..	..	..
BURNHAM-ON-CROUCH ..	19	..	..	19	90	110	..	..	32	20	30	..	..	..	..	..	..	..	..	..	2	2	18	..	..	..
CANVEY ISLAND ..	138	..	..	138	72	133	24	42	2	33	23	1	1	..	..	..	..	..	..	..	..	..	..	7	10	41
CHELMSFORD B. ..	485	36	14	435	547	1333	218	662	54	120	140	1	..	..	..	..	4	2	..	..	38	38	281½	8	24	166
CHIGWELL ..	432	..	2	430	31	311	9	218	7	40	31	..	..	..	..	..	7	..	..	..	21	21	153	6	6	41
CHINGFORD ..	588	62	82	444	846	2159	51	535	..	199	254	2	1	1	2	2	..	..	..	..	66	66	475	3	59	397
CLACTON-ON-SEA ..	182	..	..	182	724	2005	86	399	1	186	97	..	..	..	2	2	..	2	..	..	4	4	29	2	2	9
COLCHESTER B. ..	393	41	..	352	1627	6598	438	4043	19	868	761	66	49	..	29	15	4	14	42	..	..	..	..	..	..	..
DAVENHAM ..	742	..	..	742	1933	4171	1334	2620	2	605	460	5	5	..	3	2	..	..	5	..	347	347	2372	39	201	1233
EPPING ..	36	16	..	20	24	81	..	..	..	24	4	7	7	..	13	13	..	..	..	..	..	..	..	..	6	39½
FEINTON & WALTON ..	35	..	..	35	196	290	21	27	9	46	36	3	3	..	1	1	..	..	1	..	..	..	..	..	..	..
HALSTEAD ..	103	86	..	17	172	509	19	19	14	112	59	48	40	..	..	..	14	17	..	..	24	24	184	7	12	71
HARWICH B. ..	78	..	..	78	179	587	24	24	5	14	14	..	..	..	169	169	..	5	12*	..	33	33	215	..	1	5½
HORNCHURCH ..	2167	56	..	2111	752	1323	102	248	11	472	307	..	..	..	18	12	6	9	22	..	24	24	228	4	29	203
ILFORD B. ..	1893	..	..	1893	1536	5107	385	2570	4	760	830	99	203	..	10	8	..	..	..	..	78	78	547½	26	24	162
LEYTON B. ..	241	..	..	241	3079	13095	1077	4407	8	1582	1762	..	..	..	68	68	..	5	..	..	156	156	981	1	96	665½
MALDON B. ..	21	..	Flats	21	245	601	160	320	16	114	68	46	40	6	13	12	..	11	3	..	14	15	90	..	1	7	
RAYLEIGH ..	96	..	..	96	89	265	59	195	7	80	73	13	7	1	6	4	..	2	5	..	2	2	14	3	3	15
ROMFORD B. ..	1774	68	..	1706	1158	2425	257	596	12	475	373	..	..	..	8	4	..	7	12	7	11	11	89	18	41	279
SAFFRON WALDEN B. ..	100	56	..	44	201	333	36	52	..	28	15	5	5	..	..	..	..	..	..	..	21	21	135	3	16	96
THURROCK ..	594	13	..	581	1472	5584	325	670	6	664	484	79	22	1	35	53	..	4	13	..	65	65	554	8	10	90	
WALTHAM HOLY CROSS	68	10	2	56	206	264	93	141	12	62	54	4	4	..	2	2	..	5	5	..	20	20	144	..	..	..
WALTHAMSTOW B. ..	300	..	..	121	3411	15487	881	4464	6	2479	2388	86	71	12	4	4	..	3	1	3	215	215	1616	70	165	1196
WANSTEAD AND WOODFORD B. ..	810	..	..	810	1085	4409	511	2517	..	845	825	22	22	..	21	1	20	4	..	..	16	16	115½	2	4	22½
WEST MERSEA ..	27	..	..	27	63	85	25	41	..	28	28	..	..	..	..	..	..	..	..	..	2	2	14	..	..	..
WITAM ..	132	101	2	29	72	72	48	48	..	48	52	..	..	..	..	..	..	1	23	2	..	..	..	..	..	..
WIVENHOE ..	4	..	..	4	224	315	..	..	8	12	38	..	..	..	..	..	..	..	5	..	1	1	7	..	..	..
URBAN TOTAL ..	13025	828	204	11993	25163	78925	7752	28147	525	11744	10602	637	607	27	907	737	46	104	178	23	..	1401	1402	9965½	253	907	5981½
RURAL.																											
BRAINTREE ..	181	128	..	53	320	346	320	346	213	30	151	93	30	1	..	13	13	97	4	10	77
CHELMSFORD ..	494	178	..	316	409	922	125	788	39	117	68	2	25	36	..	30	19	37	37	244½	4	23	152½
DUNMOW ..	113	59	..	54	517	642	444	565	125	255	15	4	56	36	36	265	..	29	201
EPPING ..	87	24	..	63	535	2055	449	1763	1	451	342	14	11	..	1	4	10	10	84	..	5	46
HALSTEAD ..	91	52	..	39	258	694	95	171	16	79	91	12	20	..	3	13	18	4	4	30	2	13	97
LEXDEN AND WINSTREE	106	28	..	78	793	2846	272	2137	99	247	210	2	3	..	19	17	..	18	11	14	14	111	7	41	310
MALDON ..	53	3	..	50	388	1260	310	917	55	149	143	12	12	..	2	10	7	24	24	174	3	5	29
ONOH ..	42	42	92	120	74	87	18	47	30	2	8	8	48	..	8	65
ROCHFORD ..	178	178	157	291	9	61	6	34	30	3	3	1	18	19	..	3	13	19	19	132	10	9	57½
SAFFRON WALDEN ..	79	30	..	49	530	603	530	603	109	267	242	..	27	17	63	63	439	1	11	77
TENDBING ..	126	..	..	126	494	1007	494	1007	10	127	99	..	..	..	..	..	..	12	15	..	..	51	51	381	2	

*6 Demolished voluntarily.

TABLE XI

HOUSING ACT, 1936.

SUMMARY OF RETURNS RECEIVED FROM COUNCILS OF RURAL DISTRICTS IN REGARD TO HOUSING CONDITIONS OF PERSONS OF THE WORKING CLASSES, 1938.

Rural District.	No. of Houses known to be totally unfit for human habitation or otherwise requiring to be demolished.					
	No. on 31st December, 1936.		No. found during year ended 31st December, 1937.		No. of houses during period 1st January to 31st December, 1937.	
	Occupied.	Unoccupied.	Occupied.	Unoccupied.	Demolished.	Rendered habitable.
Chelmsford	66	6	33	3	19	8
Braintree	581 (b)	80 (b)	284	22	36	91
Dunmow	509	39	189	21	34	33
Epping	—	23	3	2	13	—
Halstead	59	52	33	10	12	28
Lexden and Winstree ..	13	16	53	18	17	9
Maldon	42	28	11	14	24	15
Ongar	50	11	15	—	12	—
Rochford	23	13	4	7	19	—
Saffron Walden	53	14	85	11	7	4
Tending	8	17	167	43	27	5
*Totals	1404	299	877	151	220	193
					51	
					1947	
						345

*Subject to notes on page 53.

No. on 31st December, 1937.

Occupied.

Unoccupied.

Undertaking given not to use for human habitation.

TABLE XII.

HOUSING ACT, 1936.

SUMMARY OF RETURNS RECEIVED FROM COUNCILS OF RURAL DISTRICTS IN REGARD TO HOUSING CONDITIONS OF PERSONS OF THE WORKING CLASSES, 1938.

Rural District.		No. of houses known not to be in all respects reasonably fit for human habitation.						
		No. on 31st December, 1936.		No. found during year ended 31st December, 1937.		No. rendered habitable during period 1st January to 31st December, 1937.	No. on 31st December, 1937.	
		Occupied.	Unoccupied.	Occupied.	Unoccupied.		Occupied.	Unoccupied.
Chelmsford	..	70	—	140	—	138	72	—
Braintree	..	572	—	537	—	—	1109	—
Dunmow	..	795	—	462	13	19	1239	12
Epping	..	223	—	281	—	293	211	—
Halstead	..	164	10	113	14	74	209	18
Lexden and Winstree	..	201	5	286	4	269	221	6
Maldon	..	25	4	160	9	128	60	10
Ongar	..	269	9	112	5	120	263	12
Rochford	..	33	8	62	19	67	38 (d)	12 (d)
Saffron Walden	..	—	—	108	—	103	5	—
Tendring	..	112	—	—	—	32	80 (e)	—
*Totals	..	2464	36	2261	64	1243	3507	70

*Subject to notes on page 53

HOUSING ACT, 1936.

SUMMARY OF RETURNS RECEIVED FROM COUNCILS OF RURAL DISTRICTS IN REGARD TO HOUSING CONDITIONS OF PERSONS OF THE WORKING CLASSES, 1938.

Rural District.	Provision of New Houses.					Total number of houses contemplated for erection in the year ending 31st March, 1939, but not yet approved by Minister.
	No. erected during year ended 31st December, 1937.	Estimated number of houses required during year ending 31st March, 1939, to meet :—		Total number of houses approved by Minister but not completed.		
		Overcrowding.	Normal expansion.			
Chelmsford	67	50	395	174	271	
Braintree	— (f)	— (g)	— (g)	144	— (h)	
Dunmow	72	42	— (i)	153	136	
Epping	54	15	89	42	62	
Halstead	22	7	47	38	22	
Lexden and Winstree	—	24	6 (k)	26	— (e)	
Maldon	—	26	53	48	26	
Ongar	47	17	33	12	38	
Rochford	38	—	—	—	—	
Saffron Walden	—	80	24	—	104	
Tendring	160 (j)	21	71	—	92	
*Totals	460	282	718	637	751	

*Subject to notes on page 53.

TABLE XIV.

HOUSING ACT, 1936.

SUMMARY OF RETURNS RECEIVED FROM COUNCILS OF RURAL DISTRICTS IN REGARD TO HOUSING CONDITIONS OF PERSONS OF THE WORKING CLASSES, 1938.

Rural District.	No. of houses in which overcrowding is known to exist.			
	No. on 31st December, 1936.	No. found during year ended 31st December, 1937.	No. remedied during year ended 31st December, 1937.	No. remaining on 31st December, 1937.
Chelmsford	101	2	47	56
Braintree	20	6	7	19
Dunmow	81	1	17	65
Epping	21	—	6	15
Halstead	33	—	20	13
Lexden and Winstree	44	16	12	48
Maldon	41	5	20	26
Ongar	83	4	26	61
Rochford	39	10	31	18
Saffron Walden	80	1	8	73
Tending	74	5	27	52
Totals	617	50	221	446

NOTES TO TABLES ON PAGES 49 TO 51.

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- (a) Includes three houses in which action was started and completed in year under review.
 - (b) Includes 62 omitted from last year's return.
 - (c) Includes 16 houses still occupied in respect of which undertaking has been given not to use for human habitation.
 - (d) Discrepancy in houses remaining on 31st December, 1937, accounted for by the fact that five houses entered under this heading have been transferred to columns relating to houses requiring to be demolished.
 - (e) Estimated.
 - (f) Nil.
 - (g) Probably none.
 - (h) It is anticipated that one further programme of approximately 150 houses will satisfy the needs of the district.
 - (i) Unable to forecast.
 - (j) Includes 10 houses built by Land Settlement Association.
 - (k) Replacement of unfit houses.
 - (l) The Council have given an undertaking to provide about four houses to rehouse persons at present residing in a defined Clearance Area in the parish of East Donyland.

The Council have under consideration the provision of additional houses under the Housing (F.P.) Act, 1938, for agricultural workers, but are not yet in a position to give the estimated number of houses required in the various parishes for this purpose.

HOUSING.

Table X on page 18a gives particulars of the work carried out under the Public Health and Housing Acts by the Local Sanitary Authorities during the year 1938. The principal items included in that table are compared below with the figures for the year 1937 :—

	1937.	1938.
No. of new houses erected	15,273 ..	14,575
No. of houses inspected for housing defects ..	32,752 ..	29,656
No. of inspections made for the purpose ..	94,120 ..	89,711
No. of houses found to be totally unfit for human habitation	1,436 ..	1,216
No. of houses found not to be in all respects reasonably fit for human habitation ..	15,550 ..	13,547
No. of houses rendered fit in consequence of informal action	12,390 ..	12,023

RURAL DISTRICTS. Under Sections 88 and 89 of the Housing Act, 1936, a definite duty is placed upon the Council of every County, "as respects each rural district within the County, to have constant regard to the housing conditions of persons of the working classes, the extent to which overcrowding or other unsatisfactory conditions exist and the sufficiency of the steps which the Council of the district have taken, or are proposing to take, to remedy those conditions and to provide further housing accommodation."

To assist the County Council in carrying out that duty, each Rural District Council furnished their seventh return (for the year 1937) in regard to housing conditions of persons of the working classes. A summary of these returns is given in Tables XI to XIV on pages 49 to 53, and the totals are compared with last year's figures in the following table :—

	1936.	1937.
No. of totally unfit houses on 31st December ..	1,639 ..	2,292
No. of houses demolished during year ..	163 ..	220
No. of partially unfit houses on 31st December ..	2,501 ..	3,577
No. of houses rendered habitable during year ..	1,413 ..	1,243

Estimated number of houses required :—

	On 31-3-38.	On 31-3-39.
(a) To meet overcrowding ..	310 ..	282
(b) To meet normal expansion ..	761 ..	718

No. of proposed new houses :—

(a) Approved by Ministry of Health ..	446 ..	637
(b) Not yet approved by Ministry of Health	928 ..	751

CONTRIBUTIONS TO RURAL DISTRICTS. During the financial year 1937-38, the following contributions were paid to District Councils in connection with houses, the contributions being at the rate of £1 per house for 40 years :—

				No. of Houses.		Amount of Contributions. £
Dunmow R.	..	..	..	2	..	2
Epping R.	..	..	..	12	..	12
Halstead R.	..	..	..	80	..	80
Ongar R.	..	..	..	20	..	20
Thurrock U.	..	..	..	2	..	2

HOUSING (RURAL WORKERS) ACTS, 1926-38.

The County Land Agent has kindly intimated that during the year 1938, 177 forms of application were received for grants in respect of 330 cottages. The districts in which the cottages are situate are as under:—

District.		No. of Applications.		No. of Cottages.		No. of Cottages in respect of which Grants have been approved.		Total Grants in the year. £
Braintree R.	..	47	..	91	..	42	..	4,200
Chelmsford R.	..	22	..	36	..	29	..	2,854
Dunmow	..	28	..	54	..	25	..	2,436
Epping R.	..	2	..	4	..	2	..	200
Halstead R.	..	5	..	9	..	9	..	900
Lexden & Winstree R.	..	13	..	22	..	18	..	1,767
Maldon R.	..	5	..	9	..	3	..	253
Ongar R.	..	6	..	12	..	5	..	500
Rochford R.	..	9	..	24	..	15	..	1,500
Saffron Walden R.	..	17	..	30	..	14	..	1,400
Tendring R.	..	10	..	13	..	5	..	500
Billericay U.	..	1	..	1	..	1	..	100
Burnham U.	..	1	..	2	..	2	..	200
Frinton & Walton U.	..	1	..	2	..	2	..	176
Hornchurch U.	..	2	..	4	..	4	..	400
Thurrock U.	..	1	..	2	..	2	..	200
Waltham Holy Cross U.	..	1	..	2	..	1	..	100
Witham U.	..	5	..	11	..	5	..	500
Dagenham B.	..	1	..	2	..	—	..	—
		177	..	330	..	184	..	£18,186

Of the cottages included in the above applications, 184 were approved for grants, 22 were not approved, 28 were withdrawn, and 96 were awaiting owners' proposals. The total number of cottages approved for reconditioning under the Act in Essex up to the 31st December, 1938, is 1,162. The total amount of grants is £108,665, and it is estimated that the expenditure made in addition by the owners themselves exceeded £111,337.

Particulars of three typical cases of cottages reconstructed or improved by grant made by the County Council during 1938 are set out hereunder :—

(1) *Parish of Hempstead.*

Two timber-built, plaster and thatched cottages in Church Road leading from Hempstead to Sampford.

New addition erected to provide bedroom on first floor, with scullery and bedroom on ground floor. Roof rethatched and covered with wire netting. New windows and new entrances. New chimney and new staircases. New sinks and coppers. New e.c.'s and cesspool drainage.

Grant made to owner—£200.

Estimated total expenditure—£368.

(2) *Parish of Little Braxted.*

Two timber-built, plaster, weatherboarded and tiled cottages, at Colemans Corner, Little Braxted.

New addition erected to provide two bedrooms with scullery, pantry and fuel place. Roof retiled. External walls replastered, and weatherboarding renewed. New windows and staircases. New food stores and sinks.

Grant made to owner—£200.

Estimated total expenditure—£560.

(3) *Parish of Hatfield Peverel.*

Detached brick-built and tiled dairy, with washing and storage places opposite the Station, Hatfield Peverel.

Conversion of dairy into two cottages. Internal walls removed and new party wall and partitions erected. New chimneys and new first floors and ceilings to bedrooms. New staircases, windows and doors. New coppers, ranges, stoves, sinks and baths. New drains connected to sewer.

Grant made to owner—£200.

Estimated total expenditure—£385.

MILK SUPPLY.

Veterinary Inspection of Dairy Herds.

The whole-time Veterinary Service, consisting of one Chief Veterinary Officer, one Senior Assistant Veterinary Officer and seven Assistant District Veterinary Officers, continued the routine examination of dairy herds in Essex until 31st March, 1938. On 1st April, 1938, Articles 8, 9 and 10 of the Milk and Dairies Order, 1926, which empowered every County Council and County Borough Council to cause inspections of cattle, were revoked. The whole of the veterinary staff were then taken over by the Ministry of Agriculture and Fisheries.

Milk and Dairies (Consolidation) Act, 1915.

BIOLOGICAL EXAMINATIONS. Samples of milk were obtained and submitted to biological examination, with the results indicated below :—

Taken by.	Results.					
	No. found to contain Tubercle Bacilli.		No. free from Tubercle Bacilli.		Total.	
	1938.	1937.	1938.	1937.	1938.	1937.
Assistant District Veterinary Officers at farms (1st January to 31st March)	10 (4.2%)	75 (5.2%) ..	226	1356 ..	236	1431
Assistant County Health Inspectors and Weights and Measures Inspectors at farms (from 1st April) ..	53 (5.0%)	Nil. ..	1003	Nil. ..	1056	Nil.
Weights and Measures Inspectors :—						
(a) At Public Assistance Institutions, Sanatoria, &c. ..	4 (5.1%)	3 (10.3%) ..	74	26 ..	78	29
(b) At or near Schools under Milk-in-Schools Scheme	22 (4.4%)	22 (4.2%) ..	476	498 ..	498	520
Totals	89 (4.8%)	100 (5.0%) ..	1779	1880 ..	1868	1980

Prompt action was taken by the Veterinary Services to eliminate the cows which were giving tubercle bacilli in the milk.

SECTION 4. During the year 9 notifications were received from Medical Officers of Health under Section 4 of the Milk and Dairies (Consolidation) Act, 1915, to the effect that the biological examination of samples of milk from 9 farms within the Administrative County of Essex had revealed the presence of tubercle bacilli. Particulars were transmitted to the Divisional Inspector of the Ministry of Agriculture and Fisheries, who arranged for the usual inspections of the herds at the farms where the milk in question was produced, with a view to eliminating the cows which were giving tubercle bacilli in the milk.

Milk and Dairies Order, 1926.

Increasing use was made by the local Sanitary Authorities of the laboratory facilities for the bacteriological examination of samples of milk, with the results indicated below :—

Quarter ended.	No. of samples		Total.
	Satisfactory.	Unsatisfactory.	
31st March	170 ..	30 (15.0%) ..	200
30th June	215 ..	58 (21.2%) ..	273
30th September ..	142 ..	108 (43.2%) ..	250
31st December ..	260 ..	76 (22.6%) ..	336
	787 ..	272 (25.7%) ..	1,059

Milk (Special Designations) Orders, 1936 and 1938.

LICENCES. During the year, the following licences were granted :—

Kind.	No.
*Tuberculin Tested Milk	81 (65)
†Accredited	838 (800)
	<hr/>
	919 (865)
	<hr/>

*18 of the Licensees were also licensed to bottle Tuberculin Tested Milk.

†50 of the Licensees were also licensed to bottle Accredited Milk.

The figures in brackets in the above Table are for the year 1937.

Every farm from which an application for a licensee has been received is inspected jointly by one of the County Health Inspectors and the appropriate local Sanitary Inspector, when agreement is reached as to the improvements, if any, which are required.

The Milk Special Sub-Committee has adopted the practice of not granting a licensee until a certificate is received from the Local Sanitary Authority to the effect that they are satisfied that the premises comply with the Milk and Dairies Order, 1926.

During the year eight notices to suspend and three notices to revoke licences were served, but upon further consideration and after interviewing the farmers concerned, four licences were suspended and two revoked.

TUBERCULIN TESTED MILK AND ACCREDITED MILK. From 1st January to 31st March, the Assistant Veterinary Officers continued to obtain all routine samples of milk. On the transfer of these Officers to the Ministry of Agriculture and Fisheries on 1st April, these routine samples were obtained at the farms by the Assistant County Health Inspectors; four additional appointments being made for this and other purposes.

The Weights and Measures Inspectors obtained samples from central depots and in course of delivery. All these samples, with a few exceptions, were submitted to the Methylene Blue Reduction Test only, with the following results:—

(a) *Tuberculin Tested Milk.*

Quarter ended.	No. of samples		No.		No. Unsatisfactory.	
	taken.	satisfactory.			1938.	1937
31st March	.. 70	.. 68	..	2 (2.9%)	.. 6.6%	
30th June	.. 72	.. 58	..	14 (19.4%)	.. 20.0%	
30th September	.. 58	.. 42	..	16 (27.6%)	.. 32.4%	
31st December	.. 138	.. 129	..	9 (6.5%)	.. 5.3%	
<hr/>						
Totals	.. 338	.. 297	..	41 (12.1%)	.. 19.7%	

(b) *Accredited Milk.*

Quarter ended.	No. of samples		No. Satisfactory.	No. Unsatisfactory.	
	taken.			1938.	1937.
31st March	.. 1,091	.. 1,051	.. 40 (3.7%)	.. 4.7%	
30th June	.. 980	.. 807	.. 173 (17.6%)	.. 13.9%	
30th September	.. 1,497	.. 982	.. 515 (34.4%)	.. 39.9%	
31st December	.. 1,128	.. 1,035	.. 93 (8.2%)	.. 7.7%	
Totals	.. 4,696	.. 3,875	.. 821 (17.5%)	.. 18.6%	

It will be seen that the highest percentage of unsatisfactory samples again occurred during the two summer quarters, when more care is needed in methods of milk production if satisfactory results are to be maintained.

After the first unsatisfactory sample, a letter of caution is sent to the farmer and a further sample is obtained. After the second consecutive unsatisfactory sample, a stronger letter of caution is sent and the farmer is advised to consult the Principal of the East Anglian Institute of Agriculture. Most farmers readily avail themselves of these free advisory facilities. After the third consecutive unsatisfactory sample, particulars are submitted to the next meeting of the Milk Special Sub-Committee, who interviewed several farmers during the year.

Milk-in-Schools Scheme.

This Scheme has been readily accepted by and received the full co-operation of practically all the Head Teachers, upon whose willing help the success of the Scheme must depend. As a result of these efforts, the following numbers participate in the Scheme :—

- (a) Number of schools under the Milk Marketing Board Scheme, 522, an increase of 24. Number of children participating, 47,887, an increase of 4,503.
- (b) Number of schools not necessarily under the Milk Marketing Board Scheme, 91. Number of children participating, 4,143.
- (c) Number of schools not participating in the Milk-in-Schools scheme 16
 Number of children attending thereat 1248

The County Medical Officer, after consulting the local Medical Officers of Health, issued during the year 93 certificates approving of the source and quality of the milk supplied. On 31st December, 1938, there were 548 certificates in operation under the scheme.

During the year samples of milk, as delivered to schools under the Milk-in-Schools Scheme, were obtained and examined, with the following results :—

- (a) *Biological Examinations.* Number of samples examined 523, of which 25 gave inconclusive results. 22 samples (4.4%) were found to contain tubercle bacilli, the percentage for 1937 being 4.2. For economical reasons, pasteurised milk was not submitted to biological examination this year. Prompt action was taken by the Veterinary Services with a view to eliminating from the herds concerned any cow which was found to be excreting tubercle bacilli in the milk.
- (b) *Bacteria Count.* Since 1st January, 1937, in accordance with the Milk (Special Designations) Orders, 1936 and 1938, Pasteurised Milks only are submitted to the Bacteria Count, the standard for which is that the milk shall be found to contain not more than 100,000 bacteria per millilitre. Number of samples of Pasteurised Milk examined 183, of which 12 (6.6%) failed to comply with the standard. In each of the unsatisfactory cases, representations were made to the Local Medical Officer of Health concerned, and further samples were obtained.

(c) *Methylene Blue Reduction Test.* All samples of milk, other than Pasteurised Milk, have since 1st January, 1937, been submitted to the Methylene Blue Reduction Test, which is a test prescribed for Tuberculin Tested Milk and Accredited Milk by the Milk (Special Designations) Orders, 1936 and 1938. Number of samples examined 579, of which 81 (14.0%) failed to comply with the standard laid down in the before-mentioned Orders. In each of the unsatisfactory cases, representations were made to the Local Medical Officer of Health concerned, and further samples were obtained.

(d) *Coliform Bacteria Test.* 239 of the 579 samples referred to in (c) above were, during the first quarter only, also submitted to the Coliform Bacteria Test for Tuberculin Tested Milk and Accredited Milk under the Milk (Special Designations) Orders, 1936 and 1938. 20 (8.4%) failed to comply with the standard laid down in those Orders. In each of the unsatisfactory cases, representations were made to the Local Medical Officer of Health concerned, and further samples were obtained.

(e) *Chemical Test.* The following paragraph has been extracted from the Annual Report of the County Analyst :—

“ Of the 959 milk samples taken from schools or institutions 87 (9.0%) were unsatisfactory—4 by reason of added water ranging from 3 to 7% and 83 by reason of deficiency in fat. In 27 cases the deficiency in fat ranged from 2 to 5%, in 29 cases from 6 to 10%, in 15 cases from 11 to 15%, in 7 cases from 16 to 20%, in 5 cases from 22 to 50% of the minimum quantity of fat proper to normal milk.

Of the 959 samples of milk delivered to schools and institutions there were 872 which complied with the requirements of the Sale of Milk Regulations, but of these there were 204 which, although containing the 3% of fat laid down in the Sale of Milk Regulations, nevertheless failed to comply with the more stringent requirement of the presence of 3.25 per cent. of fat enjoined, as we understand, under the contracts for these supplies.”

FOOD AND DRUGS.

The Administrative County is divided into two districts for the sampling of Food and Drugs, namely, Eastern and Western Districts. The following statistical information relating to this work has been kindly furnished by the County Analyst, Dr. Bernard Dyer, 17, Great Tower Street, London, E.C. (Telephone No. Royal 6608), and relates to the year 1st December, 1937, to 30th November, 1938 :—

Samples taken from Vendors.	Samples Analysed.	Samples Unsatisfactory.	Percentage of Unsatisfactory Samples.
Eastern District of the County ..	1632	108	6.6 (5.4)
Western District of the County ..	2491	106	4.3 (3.1)
Borough of Barking ..	1	—	} 3.9 (4.8)
Borough of Ilford ..	4	—	
Borough of Walthamstow ..	64	1	
Borough of Wanstead and Woodford ..	29	1	
Borough of Chingford ..	3	2	
Borough of Dagenham..	1	—	
	4225	218	5.1 (4.2)
“ Appeal to Cow ” milk samples :—			
Eastern District of the County ..	57		
Western District of the County ..	36		
	93		
“ Appeal to Goat ” sample :—			
Eastern District of the County ..	1		
Samples taken from Schools or Institutions :—			
Eastern District of the County ..	808	79	9.8 (8.6)
Western District of the County ..	151	8	5.3 (4.3)
	959	87	9.1 (7.4)
Total ..	5278	305	—

The figures in brackets refer to year 1937.

The above table shows that during 1938 the number of unsatisfactory samples examined increased, the percentage being 5.1 per cent. compared with 4.2 per cent. in 1937.

The following are interesting extracts from the Annual Report of Dr. Bernard Dyer, the County Analyst :—

“ MILK. Of the samples of milk taken directly from vendors, 167 were found to be adulterated or unsatisfactory. Of these 56 samples showed evidence of the presence of added water. Of these samples there were 17 that did not fall below the figures indicated in the Sale of Milk Regulations, but nevertheless by their freezing point afforded evidence of the presence of added water. Of the samples which fell below the figures of the Sale of Milk Regulations, 23 afforded evidence of the presence of added water in proportions ranging from 1 to 5 per cent., nine samples from 6 to 10 per cent., two of 12 per cent., 1 of 13 per cent., two of 14 per cent., one of 21 per cent. and one of 22 per cent.

One hundred and ten samples showed deficiencies in fat varying in 69 cases from 2 to 10 per cent., in 33 cases from 11 to 20 per cent. and in the eight remaining cases between 24 and 46 per cent. of the minimum quantity of fat proper to normal milk as indicated in the Sale of Milk Regulations.

Another sample of milk, otherwise genuine, had an objectionable flavour.

Of the milk samples taken from Schools or Institutions 87 were unsatisfactory—four by reason of added water, ranging from 3 to 7 per cent., and 83 by reason of deficiency in fat. In 27 cases the deficiency in fat ranged from 2 to 5 per cent., in 29 cases from 6 to 10 per cent., in 15 cases from 11 to 15 per cent., in 7 cases from 16 to 20 per cent. and in five cases from 22 to 50 per cent. of the minimum quantity of fat proper to normal milk.

GOAT'S MILK. One sample of goat's milk was found to contain 12 per cent. of added water. This was confirmed by the analysis of an 'appeal' sample taken from the goat which was supposed to have yielded the milk, and it is interesting to note that while the sample of milk taken from the goat had the normal freezing point which is found in genuine cows milk, the watered sample had a freezing point which by comparison bore out the admixture of added water as deduced from chemical analysis. It may be also interesting to add that the sample of milk taken from the goat contained 4.50 per cent. of fat and as much as 9.56 per cent. of non-fatty solids.

CREAM ICE. A sample sold as 'cream ice' was found to contain only $2\frac{1}{2}$ per cent. of fat, which fat was not derived from milk or cream.

METEOROLOGY.

Table XV is compiled from information kindly supplied each month by the East Anglian Institute of Agriculture, Chelmsford, from records kept at the County Meteorological Station at Chelmsford.

The year 1938 proved to be a dry year, the total rainfall being 18.93 inches. For 1937 it was 28.22 inches, and for 1936 it was 25.17 inches. September was the wettest month, and April and June months the driest.

This year the highest maximum temperature (84°) was reached in July and again in August, the next highest being 80° in June.

TABLE XV.

OBSERVATIONS FROM THE COUNTY METEOROLOGICAL STATION AT CHELMSFORD.

[illegible]

WATER SUPPLIES.

During the year two Corporations made application to the Ministry of Health for sanction to borrow sums of money, a gross total of £86,000, for works of water supply. Public inquiries were held on the dates shown in the following table :—

Date of Inquiry.	Local Sanitary Authority.	Loan required.	Purpose.
1938.		£	
10th June ..	Colchester Borough ..	84,000	Water supply.
19th October ..	Maldon Borough ..	2,000	Water supply.
		<u>£86,000</u>	

At the time of writing, all the water supply schemes in the Rural Districts have been completed or are nearing completion.

Fluorine in Public Water Supplies.

At the time of writing this report, consideration is again being given to the presence of fluorine in certain of the public water supplies, particularly those provided by the Local Sanitary Authorities in the eastern portion of the County and adjacent to the sea.

In the Report of the School Medical Officer for Essex for the year 1935, the Senior Dental Surgeon called attention to drinking water with a high content of fluorides when reporting upon a condition described as stained or mottled teeth. “ Whilst this condition may be met with in other parts of the County in varying degrees, it is known to be especially prevalent in the Maldon Area. I also find it equally prevalent in the Rochford Area and roughly estimated that 65 per cent. of the school population are affected there.”

It has now been established by investigations carried out during the past five years in various parts of the world that the presence of minute traces of fluorine in drinking water supplies has caused the condition known as “ mottled teeth.” This dental defect is likely to arise when the fluorine content of the drinking water exceeds one part per million ; its prevalence and intensity would appear to be proportional to the concentration of fluorine in a drinking water, and it occurs in those who are born and bred in the area of the affected supply. Adults who move to such areas do not therefore develop mottling of teeth, but whether any other ill affects might arise is uncertain, although possible, if the fluorine content is high.

This now introduces another factor which should be taken into consideration when reporting upon the wholesomeness of public water supplies. Enquiries are therefore being made in co-operation with each local Medical Officer of Health concerned with a view to appropriate action being taken in the interests of the public health.

SEWAGE WORKS AND RIVERS POLLUTION

LOANS. During the year, three Municipal Borough, two Urban District and three Rural District Councils made application to the Ministry of Health for sanction to borrow sums of money, a gross total of £400,932, for works of sewerage and sewage disposal. Public Inquiries were held on the dates shown in the following table :—

Date.	Local Sanitary Authority.	Catchment Area.	Loan.	Purpose.
1st February, 1938	Braintree R...	Brain	£ 5,529	Works of sewerage—Feering.
2nd March, 1938	Epping R. .. .	Roding	22,500	Sewerage and sewage disposal—Theydon Bois and Theydon Garnon.
7th April, 1938	Colechester B. ..	Colne	94,700	Sewerage and sewage disposal.
23rd May, 1938	Chingford B. .. .	Lea... ..	30,188	Sewerage.
24th May, 1938	Witham U. .. .	Blackwater ..	3,115	Sewerage.
18th October, 1938	Hornchurch U. and Romford B.	Beam	243,000	Sewage disposal.
18th October, 1938	Lexden & Winstree R.	Stour	1,900	Sewage disposal—Dedham.
		Total	£400,932	

VISITS TO SEWAGE WORKS. The County Health Inspectors paid 347 visits to the Sewage Works in the Administrative County, when 352 samples were obtained. It will be seen from Table XVI. on pages 65 and 66 that 196 samples were satisfactory or on border line, and 156 or 44.3 per cent. were unsatisfactory, the figure for 1937 being 29.6. Representations were made to the Local Authorities concerned regarding the unsatisfactory samples.

ESSEX COUNTY COUNCIL ACT, 1933.

Establishments for Massage and Special Treatment.

Sections 54-71 of the Essex County Council Act, 1933, regarding establishments for massage and special treatment, are in force by resolutions of the County Council, in the Boroughs of Chelmsford, Chingford, Colechester, Dagenham, Maldon, Romford, Saffron Walden and Wanstead & Woodford, the Urban Districts of Billericay, Brentwood, Chigwell, Clacton, Epping, Frinton & Walton, Hornchurch, Thurrock, and Waltham Holy Cross, and the Rural Districts of Epping and Ongar.

By Section 69, the powers and duties under this part of the Act are delegated to the Boroughs of Barking, Ilford, Leyton and Walthamstow. Conditions and restrictions to be imposed upon the exercise of the powers and duties of Part IV of the Essex County Council Act, 1933, were approved by the County Council on 6th March, 1934.

During the year ended 31st March, 1939, licences were granted to 64 applicants, authorising them to carry on establishments for massage or special treatment on the premises approved.

TABLE XVI.

SHOWING SEWAGE WORKS, NUMBER OF VISITS, AND NUMBER OF SAMPLES TAKEN
DURING THE YEAR 1938.

Catchment Area.	Sewage Works.	Sanitary District.	No. of Visits.	Samples taken.		
				No. satisfactory or on border line.	No. unsatisfactory.	Total.
Beam ..	Romford & Hornchurch Jt.	Romford B. and Hornchurch U.	4	8	—	8
Brain ..	Braintree	Bra'tree & Bocking U.	12	—	10	10
Blackwater ..	Bocking	"	5	4	1	5
	Coggeshall	Braintree R... ..	5	4	—	4
	Kelvedon	"	5	4	—	4
	Silver End	Witham U.	5	3	2	5
	Tillingham	Maldon R.	4	2	2	4
	Witham	Witham U.	6	6	—	6
Cam	Newport	Saffron Walden R. ..	5	3	1	4
	Saffron Walden ..	Saffron Walden B. ..	4	1	3	4
Chelmer ..	Chelmsford B. & R. Jt.	Chelmsford B. & R... ..	5	5	—	5
	Dunmow	Dunmow R.	5	2	2	4
	Great Waltham ..	Chelmsford R.	5	—	—	—
	Thaxted	Dunmow R.	6	2	3	5
Colne	East Donyland ..	Lexden & Winstree R.	2	—	1	1
	Great Bentley ..	Tendring R.	1	1	—	1
	Halstead	Halstead U.	15	11	4	15
	Laver Breton ..	Lexden & Winstree R	6	1	3	4
	Sible Hedingham ..	Halstead R.	5	1	1	2
	Tiptree	Lexden & Winstree R	6	5	—	5
	Tolleshunt Knights ..	Maldon R.	4	2	2	4
Crouch ..	Great Burstead ..	Billericay U.	4	4	—	4
	Laindon	"	7	4	1	5
Holland Brook	Thorpe-le-Soken ..	Tendring R... ..	4	3	2	5
	Great Holland.. ..	Frinton & Walton U.	1	—	1	1
	Weeley	Tendring R... ..	1	—	1	1
Ingrebourne ..	Brentwood	Brentwood U.	4	4	—	4
Kirby Creek..	Kirby-le-Soken ..	Frinton & Walton U.	3	3	—	3
Mardyke ..	Bury Farm, Great Warley	Hornchurch U.	3	3	—	3
	South Ockendon ..	Thurrock U... ..	5	5	—	5
	Orsett	"	5	3	2	5
Ramsey ..	Dovercourt	Harwich B.	4	—	4	4
	Parkeston	Tendring R... ..	4	—	4	4
	Ramsey	"	3	—	3	3
Roach ..	Rayleigh (East) ..	Rayleigh U... ..	7	6	1	7
Roding ..	Abridge	Ongar R.	5	4	—	4
	Buckhurst Hill ..	Chigwell U.	4	3	1	4
	Chigwell	"	4	3	1	4
	Chigwell Row ..	"	5	4	2	6
	Debden Green ..	"	4	1	3	4
	Epping (Southern) ..	Epping U.	4	2	1	3
	Grange Hill	Chigwell U.	4	1	3	4
	Loughton	"	4	2	2	4
	Moreton	Ongar R.	6	1	3	4
	North Weald	Epping R.	5	2	3	5
	Stanford Rivers ..	Ongar R.	5	4	—	4
	Theydon Bois	Epping R.	5	1	4	5
	Thornwood	"	5	2	3	5
	Wanstead	Wanst'd & Woodf'd B	5	5	—	5
	Woodford	"	5	3	2	5
Carried forward ..			240	138	82	220

TABLE XVI.—continued.

Catchment Area.	Sewage Works.	Sanitary District.	No. of Visits.	Samples taken.		
				No. satisfactory or on border line.	No. unsatisfactory.	Total.
		Brought forward ..	240	138	82	220
Stour	Steeple Bumpstead ..	Halstead R... ..	4	2	—	2
	Dedham	Lexden & Winstree R	1	—	1	1
	Lawford	Tendring R	4	—	4	4
Sea	St. Osyth	"	4	3	1	4
Ter	Hatfield Peverel ..	Braintree R.	6	1	4	5
Wid	Billericay	Billericay U.	4	4	—	4
	Great Warley	Brentwood U.	3	1	2	3
	Ingatestone	Chelmsford R.	5	2	3	5
	Mountnessing	"	5	—	4	4
	Shenfield, Hutton and					
	Ingrave	Brentwood U.	5	4	—	4
	Blackmore	Ongar R.	3	—	4	4
Other samples including private sewage works, rivers, streams, ditches, &c.			54	33	50	83
Trade effluents			9	8	1	9
Total			347	196	156	352

Refuse Dumps.

Sections 146-157 of the Essex County Council Act, 1933, in conjunction with the Third Schedule, give power for controlling the depositing of refuse in any place within the County other than the place within the County District in which the refuse is collected or assembled. In other words it is mainly to control the dumping in Essex of refuse which has been collected in many of the London Boroughs.

At the end of the year there were 16 refuse dumps in Essex which must comply with the conditions of this Act. Surprise visits are paid to these dumps from time to time, and apart from a few minor infringements, conditions were found to be satisfactory.

TOWN AND COUNTRY PLANNING.

Green Belt.

Towards the end of 1937, the Town and Country Planning Committee had before them a comprehensive memorandum from the Clerk of the County Council which included a historical summary of the origin of the scheme, the negotiations with the London County Council, the legal powers available, and concluded with a detailed account of the individual proposals which together make up the Essex section of the Green Belt, as the Town and Country Planning Committee desired to see it. This memorandum was submitted to the County Council in January, 1938, when approval in principle was given to the Essex section of the Green Belt around London of approximately 18,745 acres of land, not including Crown Lands and smallholdings at Chadwell Heath. The Green Belt Scheme was subsequently approved by the London County Council in July, 1938, and by the Essex County Council in October, 1938. The acquisition or sterilisation of the various properties comprising the Scheme are now proceeding as and when opportunity arises.

Open Spaces.

Contributions not exceeding 20 per cent. were promised by the County Council towards the cost of purchasing open spaces at Chigwell.

In January, 1938, the County Council gratefully accepted from Alderman Alfred Brooks, O.B.E., J.P., the gift of approximately five acres of land known as Gravel Hill Wood, Langdon Hills, to be held as an open space under the Open Spaces Act, 1906, as an extension of the existing open spaces at Langdon Hills.

The County Council decided to purchase compulsorily approximately 32 acres of land adjoining Vange Hall Farm.

Playing Fields.

Approval was given to the making of contributions to the Halstead Urban District Council, Boxted Parish Council and Harwich Borough Council towards the cost of the acquisition of playing fields on the condition that facilities are granted to the satisfaction of the Education Committee of the County Council for the use of the playing fields by the children in neighbouring elementary schools for playing and organised games.

Town and Country Planning Schemes.

In October, 1938, the County Council authorised the Common Seal of the Council to be affixed to the town planning schemes for the Epping and Ongar Rural Districts, and instructed the Clerk to submit the schemes to the Minister of Health for approval.

MENTAL DEFICIENCY.

The services of Dr. T. P. Puddicombe, Deputy County Medical Officer, continued to be available to the Statutory Committee for the Care of the Mentally Defective and to the Courts of Justice for investigation, examination and recommendations on cases referred as possibly mentally defective. Dr. A. R. Forbes has also continued to assist in this work of ascertainment and medical examination, and reporting on cases referred to him.

The following table compiled from medical reports shows that 242 persons were examined under the Mental Deficiency Acts :—

Diagnosis.	No. Examined.			*The figures given in Columns (1), (2) and (3) include the following :—						
				Referred by Justices for Examination.			Epileptic	Spastic Tetraplegic.	Mongols.	Dementia.
	Males. (1)	Females. (2)	* Total. (3)	M.	F.	Total.				
Feeble-minded	74	72	146	10	5	15	5	—	—	—
Imbeciles	34	26	60	—	—	—	3	—	19	—
Idiots	6	5	11	—	—	—	1	1	1	—
Moral Defectives ..	—	—	—	—	—	—	—	—	—	—
Not Certifiable under the Acts	12	13	25	7	3	10	—	—	—	2
Totals ..	126	116	242	17	8	25	9	1	20	2

There is still a waiting list for institutional care.

At the end of 1938 the Statutory Committee was responsible for the care and control or supervision of 2,201 persons, an increase of 124 on the previous year. These afflicted persons are dealt with under the following headings :—

		Male.		Female.		Total.
In Institutions	..	474	..	346	..	820
Under Statutory Supervision	..	675	..	555	..	1230
Under Guardianship	..	26	..	21	..	47
Under Licence from Institution	..	45	..	59	..	104
Totals	..	1220	..	981	..	2201

Of the 2,201 defectives referred to above, 65 were placed in Institutions, 7 under Guardianship and 156 under Statutory Supervision during the year.

MENTAL TREATMENT ACT, 1930.

Arrangements were continued under which the Medical Superintendents of the Severalls and Brentwood Mental Hospitals, viz., Dr. R. C. Turnbull and Dr. W. G. Masfield, attend Out-patient Consultative Clinics. The following reports have been received on the work carried out at the Clinics :—

Dr. Turnbull having retired from the position of Medical Superintendent of the Severalls Mental Hospital, his Deputy, Dr. A. G. Duncan, the present Medical Superintendent, reports as follows with regard to the work carried out during 1938 :—

“ Psychiatric Clinics are held in the Out-patient Departments of the Colchester Hospital and the Chelmsford Hospital, on Monday afternoons at the former, and Wednesday afternoons at the latter.

During 1938 there were 448 attendances at the two Clinics : 193 new patients were seen, nearly all of them at the request of their family doctor. Whenever practicable, treatment is given at the Clinic. If this is impossible the patient and his doctor are advised as to the best method of procuring it. In cases of minor mental disorders, advice given at two or three visits is often sufficient. For the psychoses, especially those with an insidious onset, the Clinics are a most important factor in procuring early Hospital treatment when this is necessary.

In-patients are also seen whenever required at the two Hospitals and various Public Assistance Institutions.

Occasionally mentally defective children are sent to the Psychiatric Clinic ; in these cases Dr. L. S. Penrose has kindly made himself available to advise whenever required.”

Dr. Masfield, who attends Clinics at Oldchurch County Hospital, Romford, the Woodford Combined Treatment Centre and the Orsett Public Assistance Institution, writes as follows :—

“ The Medical Practitioners of the Area served are now becoming thoroughly familiar with the provisions of the Mental Treatment Act relating to Voluntary and Temporary treatment. It will soon be possible to assert that no patient is sent to the Hospital under Certificate without the possibility of Voluntary or Temporary treatment having first been considered, which is of course the only right and proper method. In this connection I should like to pay a tribute to the very helpful and co-operative spirit in which the Medical Officers of the Public Assistance Institutions approach the subject of Mental Hospital treatment. The work in the Out-patient Clinics continues to keep the Mental Hospital in close contact with the General Practitioners, more of whom each year send patients for advice and treatment. Over 200 patients were seen at Oldehurch County Hospital and 82 at Woodford.”

With regard to the Orsett Public Assistance Institution, 37 patients were examined.

BLIND PERSONS ACTS, 1920-1938.

As mentioned in the report for the year 1937 the Ophthalmic Staff was greatly strengthened during the year 1938 by the additional appointments of a whole-time Ophthalmic Specialist, Mr. J. H. Young, M.B., B.S., D.O.M.S., who commenced duty on the 1st June, 1938, and a part-time Ophthalmic Specialist, Mr. R. S. MacLatchy, M.R.C.S., L.R.C.P., who devoted two sessions a week in Dagenham, as from the 25th April, 1938. These Officers, and Mr. G. A. Jamieson, M.B., D.O.M.S., D.L.O., who commenced duty in 1937, also hold ophthalmic appointments at hospitals in London and their services, together with Mr. T. Collyer Summers, F.R.C.S., Consultant Ophthalmologist at the Oldehurch County Hospital, Romford, ensure facilities being available for the medical and surgical treatment of Ophthalmic cases requiring hospitalization.

All certification of the blind and refraction of school children and other County cases, *e.g.*, Public Assistance, Child Welfare, Tuberculosis, Blind Persons, are now carried out by the County Ophthalmic Specialists at regular sessions held in equipped clinics at various centres throughout the County.

The Ophthalmic Department at Oldchurch County Hospital, Romford, has continued to be used for treatment with satisfactory results.

During the year, under the Blind Persons Act, 1938, the Blind Persons Act Committee adopted a scheme for the domiciliary assistance of blind persons and their dependants, and under Section 176 of the Public Health Act, 1936, a scheme for the prevention of blindness.

In connection with the latter scheme, all medical practitioners in the County were circulated on 31st January, 1939, to the effect that payment of a fee of 2/6 would be made for each notification received of persons threatened with blindness who were not already on the Committee's list. So far only four notifications have been received.

Arrangements continued under which assistance in dental treatment of blind persons and their dependants is given by the County Dental Staff and increasing use is being made of this.

The Home Teachers at the end of 1938 numbered 10 (all females).

During the year under review 556 persons were examined by specialists and occupational training was given to 39 for various periods.

On the 31st March, 1939, the Blind Persons Register showed a total of 1,891 (males 931, females 964) being an increase of 142 (males 64, females 78) over that of the previous year. Of these 1,840 (males 896, females 944) are over 16 years of age of whom 1,546 (males 664, females 882) are classed as unemployable.

Of the 1,546 cases recorded as unemployable, 32 were maintained in Homes for the Blind, 32 in Mental Hospitals and 58 in Public Assistance Institutions.

The net increase of 142 on the Register is the result of addition of 307 and removal of 165 names.

Of those removed from the Register, 102 have died, 51 removed to other areas, 10 reclassified as not coming within the definition of a blind person under the Acts and two reported as untraceable.

Cases under observation for the prevention of blindness number 702 as against 602 for the previous year, which is a net increase of 100. This is the result of the addition of 132 new cases less the removal of 32 cases from the list during the year ended 31st March, 1939.

PROPAGANDA

Health Exhibitions.

The County Council assisted in providing Health Exhibitions in the following districts :—Rochford, Silver End, Wickford, Cold Norton, Heybridge, Burnham-on-Crouch, Hutton and Rayleigh.

Health Lectures.

Members of the Staff of the County Public Health Department gave 31 lectures during the year to Women's Institutes, Nursing Associations, Mothercraft Classes, &c. In addition, talks are given by Medical Officers and Health Visitors at Child Welfare Centres.

National Campaign.

The National Campaign to encourage the use and appreciation of the Public Health Services, which commenced on 1st October, 1937, was completed on 31st March, 1938. The first three months of this year were devoted to a specific subject as shown below :—

January	..	..	..	School Health.
February	}	..	..	School Hygiene. Tuberculosis.
and				
March				

Venereal Diseases.

Reference is made in the section dealing with Venereal Diseases (see page 38) to the increasing propaganda work which was undertaken during the year in association with the British Social Hygiene Council.

TABLE XVII.

TABLE SHOWING BEDS PROVIDED AND OCCUPIED FOR THE 12 MONTHS ENDED 31ST DECEMBER, 1938,
IN COUNTY COUNCIL HOSPITALS. †
(As shown in the Return Hosp. 6).

70A

Area.	Institution.	Name, Address and 'Phone No. of Medical Officer.	No. of Beds available.			No. of Admis- sions.	No. of women confined.	Live- Births.	Still- Births.	Deaths among newly- born.	Deaths among Children under 1 year.	Maternal Deaths.	Total No. of Deaths.	No. of patients dis- charged.	No. of Beds occupied.			No. of operations under general anaes- thetics.	No. of Abdomina Sections.
			Men. 1.	Women. 2.	Children (under 16). 3.										Average. 13.	Highest. 14.	Lowest. 15.		
Dovercourt	County Con- valescent Home (Opened Nov., 1938).	Visiting M.O., Dr. A. Porter, Carlton House, Dover- court. 'Phone No. Harwich 200.	—	40	—	24	—	—	—	—	—	—	—	8	9	17	2	—	—
Romford	Oldchurch County Hospital	E. Miles, Oldchurch County Hospital, Romford. 'Phone No. Romford 3666.	385	388	195	11890	841	775	77	44	148	13	875	11060	842	904	736	5386	1430
Do.	Little Heath House, Goodmayes	Do. Do.	—	50	—	41	—	—	—	—	—	—	22	17	48	50	45	—	—
Do.	Hainault Lodge, Chigwell	Do. Do.	—	50	—	77	—	—	—	—	—	—	39	38	47	50	37	—	—
Wanstead	Essex County Hospital, Hermon Hill (Opened Nov., 1938).	Visiting M.O., Dr. D. Irwin, c/o The Vicarage, Hermon Hill, South Woodford, E.18. 'Phone No. Wanstead 0081.	100	101	—	155	—	—	—	—	—	—	17	9	60	129	15	—	—
Woodford Green	Brookfield Ortho- paedic Hospital, Oak Hill	Visiting M.O., Dr. A. Rogers, 24, Castle Avenue, Highams Park, E.4 'Phone No. Larkwood 1614.	—	—	30	80	—	—	—	—	—	—	—	75	25	31	18	97	—
Totals			485	629	225	12267	841	775	77	44	148	13	953	11207	1031	1181	853	5483	1430

† Particulars of Sick Beds in Public Assistance Institutions are shown in Table XXIX on page 100a.

PROVISION OF HOSPITAL SERVICES.

The Council's policy and activities in providing hospital accommodation were fully set out in the Reports for the years 1936 and 1937, and therefore, it is only necessary to mention the particular developments which took place during the year 1938. Table XVII shows the number of beds provided and occupied during the year in the hospitals owned by the County Council.

SOUTHERN AREA.

The First Annual Report of the Medical Superintendent of the Oldchurch County Hospital was issued in April, 1939, relating to the year 1937, and gives a comprehensive survey of the main improvements and extensions. His Report concerning the year 1938 will be published in due course.

To relieve the demand for beds in this area the Public Assistance Committee agreed to 130 beds being used for chronics at the new Suttons Public Assistance Institution, which was opened on 29th September, 1938, and to the provision of new blocks to provide a further 200 beds for these patients.

The plans for the erection of the new hospital at Crowlands, the first instalment of which is for 240 children and 240 adults, plus 10 casualties and a maternity block for 80 patients, are, at the time of writing, being considered by the Ministry of Health.

SOUTH-WESTERN AREA.

The adaptation of the premises known as the Convent of the Good Shepherd at Hermon Hill, Wanstead, to accommodate 201 chronic patients was completed during the year and the hospital was opened on 7th November, 1938, and is known as the Essex County Hospital, Wanstead.

The Council are still negotiating for a site in the South-Western Area on which to erect a hospital of 500 beds, capable of extension to 800 beds.

The Brookfield Orthopædic Hospital (30 beds) continued to function during the year, and information is given on page 70a as to the number of admissions and discharges.

CONVALESCENT HOSPITALS.

Pyrgo Park, Romford. In April, 1939, the County Council accepted a tender for the erection of a Convalescent Hospital at Pyrgo Park for men, women and children, to provide accommodation for approximately 200 patients.

County Convalescent Home, Dovercourt. Michaelstow Hall, Dovercourt, was adapted for a Convalescent Home for 40 women patients and opened on 30th November, 1938.

VOLUNTARY HOSPITALS.

The negotiations with the various voluntary hospitals referred to in the reports for the years 1936 and 1937 have continued, and further details will be given in later reports, when these negotiations are complete.

NURSING SERVICES.

The decision of the County Council on the 5th July, 1938, for improving the conditions of service of the nursing staffs were fully set out in the Report for the year 1937.

Since July, 1938, the following improvements in the conditions of service as sanctioned by the County Council have been brought into operation :—

- (a) Increased scales of salaries for the majority of grades of nurses and others are under consideration.
- (b) Four weeks' annual holiday for all branches of the nursing service.
- (c) Certain grades of nurses are allowed to live outside the Hospital or Institution.
- (d) Hours of duty are being amended to 96 per fortnight for all County Hospitals and Institutions as and when the requisite additional staff is available.
- (e) Additional recreational facilities are being provided.

The Education Committee agreed to adopt a scheme for "bridging the gap" from the time of a girl leaving school at the age of 15 or 16 years to the time she is able to enter a hospital to commence her general training. Details are still being worked out and further particulars will be given in subsequent reports.

The Report of the Interdepartmental Committee on Nursing Services, dated 20th December, 1938, is receiving the earnest consideration of all the authorities interested in nursing services.

AMBULANCE FACILITIES.

The ambulance scheme referred to in previous reports continued to operate satisfactorily.

AIR RAID PRECAUTIONS.

Emergency Medical Services.

During the year 1938 considerable progress was made in the formulation of proposals in regard to the scheme for the Emergency Medical Services on the lines of the various circulars and memoranda received from the Home Office. With one or two exceptions, local Medical Officers of Health had submitted draft schemes in regard to sections 5A and 5B of the Home Office memorandum on "The Stages in the Preparation of a Local Authority's Scheme", and a considerable amount of agreement had been reached with them regarding the establishment of First Aid Posts and First Aid Points, the augmentation of the Ambulance Services and the allocation of personnel to the various sections of the Casualty Services, when the international crisis occurred in September. This necessitated the rapid consolidation of a very temporary scheme, each local authority being given the necessary permission to make the best arrangements possible in the circumstances.

Immediately prior to the crisis, information had been received to the effect that the Ministry of Health would take over from the Home Office the organisation of the Emergency Medical Services, and consequently, after the crisis was over, steps were taken to ascertain the progress which had been made by local authorities, with a view to giving effect as quickly as possible to any revised proposals which might be made by the Ministry of Health. These revised proposals were received at the beginning of 1939, and are now rapidly approaching completion. Full details of the scheme will form the subject of next year's report.

Training of Personnel.

(1) FIRST AID PERSONNEL. During the year under review, in order to obviate difficulties which were being experienced throughout the County in connection with the training of personnel in First Aid, it was decided to organise a scheme centrally with the assistance of the British Red Cross Society and the St. John Ambulance Brigade. Accordingly, a Central Consultative Committee was set up, consisting of a representative from (a) the British Red Cross Society (b) the St. John Ambulance Brigade (c) the County Medical Officer's department and (d) the County Air Raid Precautions Officer's department.

Consequent upon the deliberations of this Committee, local Medical Officers of Health were asked to arrange for the training of their Emergency Medical Services personnel to be carried out by either of the two Voluntary First Aid Bodies. A scale of fees and travelling expenses payable to lecturers and examiners was drawn up, and minor difficulties which occur from time to time are settled by reference to the Committee.

Good progress has been made in the training of personnel for Emergency Medical Services, and the scheme has since its inception been extended to include other members of the Air Raid Precautions services, and members of the County Council's staff who require training in First Aid.

(2) MEDICAL AND NURSING PERSONNEL. The instruction of the medical and nursing staff at all County Council Hospitals and Institutions was continued by the specially appointed Home Office medical instructor, who gives courses of lectures in gas protection and in the medical and nursing treatment of gas casualties. Arrangements have been made whereby members of the County Council's health visiting staff, district nurses, midwives and keepers of Nursing Homes are given an opportunity of attending these lectures.

(3) NON-MEDICAL PERSONNEL. The training of the male staff at the Council's Hospitals and Institutions was continued during the year. A further Assistant County Health Inspector qualified as an Instructor C.A.G.S., and his services have been utilised in order to develop this side of the work more rapidly.

The following table gives details of the training undertaken up to 31st December, 1938 :—

No. of personnel fully trained	..	..	142
No. of personnel under training	..	..	83

Equipment.

The distribution of all-metal stretchers for use in connection with Ambulance Services and at First Aid Posts was begun by the Home Office during 1938, to form part of the mobilisation stocks to be held by local authorities and to be available for purposes of training and exercises.

Since the end of 1938 large quantities of medical stores and equipment for all purposes in connection with the Emergency Medical Services have been received and are stored mainly at the Oldchurch County Hospital, Romford, the Essex County Hospital, Wanstead, the St. John's Hospital, Chelmsford and the St. Mary's Hospital, Colchester.

Emergency Hospital Scheme.

The provision of hospital accommodation for air raid casualties in the event of an emergency was transferred to the Ministry of Health during 1938. A complete survey of hospital facilities in the County and the possibilities of their expansion to meet emergency requirements was undertaken by General Inspectors and Medical Officers of the Ministry in co-operation with Medical Officers on the staff of the Public Health Department, and this survey, so far as Essex was concerned, was completed by 7th March, 1939.

The preparation of the scheme and the classification of hospitals was well advanced when the September crisis arose. Hospital authorities had been told that they would be expected, if an emergency actually occurred, to empty as many beds as possible by sending home those patients who were fit to go. Simultaneously, certain hospitals would decant patients fit to be moved to other Institutions capable of continuing the necessary treatment, and for this purpose, arrangements have been made for motor coaches to be converted to carry stretchers.

The Ministry also took steps to acquire additional equipment which is now in process of distribution.

During the crisis Dr. A. Leslie Banks, of the Ministry of Health, took up duty as Regional Hospital Officer in Essex, and was given accommodation in the Public Health Department at the County Hall, and the whole department was placed at his disposal. In co-operation with him, the County Council's Hospitals and Institutions and certain other hospitals in the County were given preliminary information as to the part they would have to play in the event of the emergency developing, and before the end of the week, everything was in train for dealing with the first 24 hours of the emergency that might have arisen.

The Emergency Hospital Scheme has developed considerably since the latter part of 1938, and the establishment of the Sector Scheme, the up-grading of certain County Council Hospitals and Institutions, and the provision of hatted annexes will be referred to in next year's report.

Large quantities of equipment have also been delivered in connection with the Hospital Services, and this is at present stored mainly at the Hospitals indicated above.

PART II.

TUBERCULOSIS.

The Tuberculosis Scheme has continued along the lines set out in previous reports, and with the exception of the ever-present difficulty of an adequate number of suitable Institutional beds, the needs of the County in the main are now being met. It is anticipated that during 1940 the problem of sufficient satisfactory Institutional accommodation will be simplified by the opening of the new County Hospital at Broomfield, Chelmsford.

The following tables supply the essential information required for statistical purposes :—

TABLE XVIII.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1930.

(a) A summary of the notifications made in the Administrative County of Essex during the period 1st January, 1938, to 31st December, 1938, is given below :—

		FORMAL NOTIFICATIONS.											Total Notifica- tions.		
		Primary Notifications of New Cases of Tuberculosis.													
		Age Periods.													
		0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65		Total (all ages)	
Pulmonary, Males	...	—	5	7	26	76	78	167	124	96	63	20	662	744	
„	Females	...	1	3	15	18	75	96	190	97	24	15	11	545	627
Non-Pulmonary, Males	..	2	38	75	44	25	14	18	10	9	4	2	241	253	
„	Females...	2	18	54	34	24	17	32	15	6	5	1	208	234	

This part of the Table shows that there were 130 more primary notifications received during 1938 than 1937, and of this number 80 were non-pulmonary cases.

(b) The following summary shows the new cases which came to the knowledge of the Medical Officers of Health during the above-mentioned period, otherwise than by formal notification :—

	Age periods.											Total.
	0—	1—	5—	10—	15—	20—	25—	35—	45—	55—	65—	
Pulmonary, Males	1	1	4	3	8	3	19	14	21	9	1	84
„ Females	1	—	4	—	7	21	29	10	6	—	—	78
Non-pulmonary, Males	—	1	6	1	6	1	—	1	2	1	1	20
„ Females	—	5	3	4	2	1	3	2	1	—	1	22

The sources from which information as to the afore-mentioned cases was obtained are shown below :—

Source of Information.	No. of Cases.	
	Pulmonary.	Non-Pulmonary.
Death Returns } from Local Registrars	14	4
} transferable deaths from Registrar-General	2	1
Posthumous Notifications	7	6
"Transfers" from other areas (other than transferable deaths)	112	21
Other Sources (Forms I and II)	34	3

It will be noticed that the majority of the cases shown above are cases transferred into the County from other areas where they have previously been notified under the regulations.

TABLE XIX.
NOTIFICATION REGISTER.

	Pulmonary.			Non-pulmonary			Total Cases.
	Males	Females	Total	Males	Females	Total	
Number of cases of Tuberculosis remaining at the 31st December, 1938, on the Registers of Notifications kept by District Medical Officers of Health in the County.	3946	3388	7334	1723	1574	3297	10,631
Number of cases removed from the Registers during the year by reason of :—							
1. Withdrawal of notification	19	21	40	7	12	19	59
2. Recovery from the disease	53	50	103	49	47	96	199
3. Death (all causes)	350	219	569	40	36	76	645
4. Otherwise	295	239	534	98	92	190	724

The number of cases on the active Notification Register (Table XIX) continues to increase, there being 391 more on this Register than the previous year, and it will be noticed from Table XX that the attack rate has also increased from 0.84 in 1937 to 0.87 in 1938.

It is reasonable to hope that this is only a minor fluctuation on the long downward slope, and it should be remembered that causes other than an actual increase in tuberculosis singly or together may affect these figures, *e.g.*, increase in population, selective immigration, better diagnosis, more conscientious certification, and the operation of chance. But the death-rate is the most reliable indicator in a fatal disease, and the rates for pulmonary (0.42) and all forms of tuberculosis (0.50) are the lowest recorded in Essex. To this desirable end the Council's Tuberculosis Scheme contributed in no small measure and it would be folly to slacken at this juncture the intensive efforts made in diagnosis, treatment and segregation.

TABLE XX.

SHOWING ATTACK AND DEATH-RATES FROM TUBERCULOSIS IN THE
ADMINISTRATIVE COUNTY OF ESSEX.

YEAR.	Pulmonary Tuberculosis.				Non-Pulmonary Tuberculosis.				Tuberculosis (All Forms).			
	Noti- fica- tions.	Rate per 1,000 Pop.	Deaths.	Rate per 1,000 Pop.	Noti- fica- tions.	Rate per 1,000 Pop.	Deaths.	Rate per 1,000 Pop.	Noti- fica- tions.	Rate per 1,000 Pop.	Deaths.	Rate, per 1,000 Pop.
1912-16	Not		851	0·86	Not		269	0·27	Not		1120	1·13
1917-21	avail	able	752	0·89	avail	able	199	0·24	avail	able	951	1·13
1922-26	1110	1·16	656	0·69	320	0·34	148	0·15	1430	1·50	804	0·84
1927-31	1110	1·00	710	0·64	382	0·34	141	0·13	1492	1·34	851	0·77
1932	1188	0·96	683	0·55	425	0·34	165	0·13	1613	1·30	848	0·68
1933	1262	0·99	680	0·53	453	0·35	135	0·11	1715	1·34	815	0·64
1934	1190	0·92	654	0·50	409	0·31	114	0·09	1599	1·23	768	0·59
1935	1041	0·79	604	0·46	314	0·24	113	0·08	1355	1·03	717	0·54
1936	1044	0·78	600	0·45	356	0·26	126	0·09	1400	1·04	726	0·54
1937	1157	0·84	603	0·44	369	0·27	123	0·09	1526	1·11	726	0·53
1938	1207	0·87	581	0·42	449	0·32	116	0·08	1656	1·19	697	0·50

Although the number of cases shewn in Table XXII on page 78 as dying without having been notified under the Regulations is the lowest recorded, the number of cases dying within 3 months of notification shows no sign of diminishing and is actually higher than it has been during the past five years. It can only be assumed that the greater part of this number is comprised of those patients who fail to seek medical aid until the later stages of the disease compel them to do so. Fear lest economic hardship befall their families during treatment must act as a deterrent to many bread-winners, and the prospect of permanent loss of earning capacity must keep many from the consulting room. This aspect requires serious consideration from those interested in the social problems of tuberculosis, and is but one aspect of the vast field of "Care Work."

New Cases and Mortality during 1938.

The following table is supplied at the request of the Ministry of Health :—

TABLE XXI.

Age Periods.	New Cases.				Deaths.			
	Pulmonary.		Non-pulmonary.		Pulmonary.		Non-pulmonary.	
	M.	F.	M.	F.	M.	F.	M.	F.
0—	1	2	2	2	—	—	5	3
1—	6	3	39	23	—	1	11	15
5—	11	19	81	57	} 4	4	12	14
10—	29	18	45	38				
15—	84	82	31	26	} 48	62	10	4
20—	81	117	15	18				
25—	186	219	18	35				
35—	138	107	11	17	78	68	11	8
45—	117	30	11	7	76	34	7	5
55—	72	15	5	5	78	27	2	—
65 and upwards	21	11	3	2	55	13	2	2
	20	13			20	13	3	2
	746	623	261	230	359	222	63	53

TABLE XXII.

SHOWING DEATHS FROM TUBERCULOSIS REGISTERED WITH LOCAL REGISTRARS OF BIRTHS AND DEATHS IN THE ADMINISTRATIVE COUNTY DURING 1938, AND PARTICULARS REGARDING NOTIFICATION UNDER THE PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS (*Transferable Deaths are excluded*).

DISTRICTS.	No. of Deaths.	When Notified.							No Information.
		After Death	Within 3 months of death.	Within 3-6 months of death.	Within 6-12 months of death.	Within 1-2 years of death.	Within 2-4 years of death.	More than 4 years before death.	
Urban.									
Barking B.	26	...	4	2	1	6	3	8	2
Benfleet	11	...	1	...	4	2	1	1	2
Billericay	19	2	4	2	2	2	2	3	2
Braintree & Bocking ...	4	...	2	...	...	1	...	1	...
Brentwood	14	1	1	...	3	1	1	2	6
Brightlingsea	1	...	...	...	...	...	...	...	1
Burnham-on Crouch ...	1	...	...	...	...	1	...	...	...
Canvey Island	1	...	1	...	...	...	...	...	...
Chelmsford B.	11	...	2	...	2	...	2	2	3
Chigwell	8	...	1	...	...	3	...	1	3
Chingford	12	...	2	...	3	2	...	3	2
Clacton-on-Sea	5	...	1	1	...	...	1	...	2
Colchester B.	26	1	6	1	3	7	4	2	2
Dagenham	43	3	10	1	5	9	4	6	5
Epping	1	...	...	...	...	...	1	...	...
Frinton & Walton	1	...	1	...	...	...	...	...	...
Halstead	3	...	...	...	1	1	1	...	...
Harwich B.	3	1	...	...	1	...	1	...	...
Hornchurch	29	2	4	1	3	5	4	5	5
Ilford B.	70	1	13	4	6	11	14	14	7
Leyton B.	51	4	9	3	6	5	9	9	6
Maldon B.	6	...	2	...	...	1	...	2	1
Rayleigh	4	...	1	...	1	...	...	1	1
Romford	24	...	3	1	4	2	3	4	7
Saffron Walden B. ...	3	...	...	...	1	...	1	...	1
Thurrock... ..	28	...	7	5	2	3	5	3	3
Waltham Holy Cross ...	1	...	...	1	...	...	...	...	...
Walthamstow B.	70	4	12	4	11	8	14	6	11
Wanstead & Woodford ...	25	...	5	2	2	4	4	5	3
West Mersea	1	...	1	...	...	...	...	...	...
Witham	3	1	1	...	1	...	...	...	...
Wivenhoe ... ..	..	...	...	...	...	...	...	...	...
Totals ... 505 20 94 28 62 74 75 78 74									
Rural.									
Braintree	2	...	...	...	...	...	1	1	...
Chelmsford	9	1	1	...	...	2	2	1	2
Dunmow	4	...	2	...	...	2	...	...	...
Epping	2	...	...	...	...	2	...	...	...
Halstead	5	...	...	...	1	1	...	1	2
Lexden & Winstree ...	12	...	3	...	2	2	3	2	...
Maldon	4	...	1	1	...	...	...	...	2
Ongar	1	...	...	...	...	1	...	...	...
Rochford	9	1	1	2	1	...	...	2	2
Saffron Walden	4	...	...	1	1	...	1	...	1
Tendring	6	...	1	...	1	...	...	2	2
Totals ... 58 2 9 4 6 10 7 9 11									
URBAN DISTRICTS ... 505 20 94 28 62 74 75 78 74									
RURAL DISTRICTS ... 58 2 9 4 6 10 7 9 11									
ADMINISTRATIVE COUNTY .. 563 22 103 32 68 84 82 87 85									

Dispensaries.

Table XXIII on pages 85 and 86 gives a summary of the work carried out at the Dispensaries during 1938.

It is interesting to record that although there were 947 more new cases and contacts examined at the dispensaries during 1938, namely, 4,844, as compared with the figure for 1937, namely, 3,897, the number of cases (5,525) on the active dispensary registers at the end of the year was only 51 more than the number (5,474) at the end of 1937. This is accounted for by the fact that medical practitioners are sending to the dispensary for diagnosis an increasing number of doubtful cases.

Of the total number of new cases and contacts examined during 1938, there were 3,602 found to be non-tuberculous. In view of the foregoing comments, the fact that the number of X-Ray examinations continues to increase will be readily appreciated.

The use of the dispensary by the General Practitioner as a consultative centre is becoming more the rule than the exception and, as has been indicated in previous reports, it is essential that the dispensary service, both in personnel and facilities, should be first-class.

Institutional Treatment.

Tables XXIV on pages 86 to 88 give particulars of the extent of Institutional treatment provided during the year. Although the County Council have continued their generous response to the demand for Institutional accommodation and for the year 1938-39 allowed an average of 875 beds, it was still found impossible to cope with an ever-increasing waiting list. Accordingly, the County Council agreed to allow an average number of 900 beds for the year 1938-39, but at the time of writing this report it must be recorded that even this increase will not meet the requirements of the County. The protracted stay of patients in Institutions for both treatment and segregation in some measure accounts for this demand, but there is also a greater willingness on the part of patients to accept the offer of Institutional care, the natural corollary of improved accommodation.

(1) COUNTY SANATORIA.

The work done at the three County Sanatoria has continued to be of a high standard and I am indebted to the Medical Superintendents of these Sanatoria for the following reports :—

(a) BLACK NOTLEY SANATORIUM. (Medical Superintendent—Dr. M. C. Wilkinson).

During 1938 an additional 80 beds were occupied. 40 of these were in the new block for the treatment of pulmonary tuberculosis in adult women. This block also has a maternity unit. The other 40 beds were in the new block for the treatment of women suffering from non-pulmonary tuberculosis. The new children's block continued to be used, for the time being, for the treatment of men suffering from non-pulmonary tuberculosis. The additional accommodation has been a great advantage. In addition to the extra accommodation, the increase in the numbers to a total of 273 has benefited the internal administration because the larger Sanatorium is proving a more

convenient administrative unit. This is seen in several departments where there is now full-time work for a specially appointed person, skilled in the work of that department. The result has been an increase in the turnover of patients and the amount of treatment carried out, greater in proportion than the increase of the number of beds.

The Sanatorium is now a complete unit in which any form of tuberculosis can be efficiently treated. The fact that all forms of tuberculosis are treated in the same institution is of benefit to doctors and nurses because a more complete knowledge of the disease is obtained. This is an ideal recognised by the medical and nursing professions, but opportunities for practising it are greater at Black Notley than at the majority of institutions.

Treatment of Pulmonary Tuberculosis. (Consulting Physician : Dr. W. Burton Wood). Under the direction of Dr. W. Burton Wood, Dr. R. C. Cohen has been responsible for carrying out much of the treatment of the patients suffering from pulmonary tuberculosis. The 100 beds for the treatment of tuberculosis in young adult women have been fully occupied and owing to the urgent necessity for early admission of these patients they have tended to overflow into the new block for the older women. There has, however, been a steady flow of admissions of the adult group to this block. It was thought that bed rest and open-air therapy would form the main requirements of their treatment, but in practice it has been found that many can be improved by some form of active treatment. The block for these women is favourably situated and has an uninterrupted view of country. It affords that change conducive to serenity of mind, which is one of the chief requirements of this group of patients whose breakdown is frequently ascribed to uncongenial surroundings and economic insufficiency.

In this block also the work in the maternity unit has been started. Mothers who have suffered or who are suffering from tuberculosis are admitted several months before their confinement is expected and are retained several months after the baby is born. Up to the present more than 20 confinements have been conducted here. None of these patients has suffered a deterioration of her tuberculous condition on account of the confinement. Several of them have improved during their stay on account of treatment which it has been possible to carry out.

The statistics of treatment may be compared with those in 1937 :—

Statistics of treatment of patients suffering from Pulmonary Tuberculosis.

	1937.	1938.
Artificial pneumothorax inductions ..	33 ..	81
Number of artificial pneumothorax patients under treatment :—		
In-patients	91 ..	140
Out-patients	18 ..	26

	1937.	1938.
Number of refills given :—		
In-patients	1,436 ..	2,616
Out-patients	248 ..	500
Number of patients treated with Sano-crysin	18 ..	41
Number of patients treated by thoracoscopies and division of adhesions ..	22 ..	34
Number of phrenic avulsions ..	6 ..	31
Transferred for operation	1 ..	1

Treatment of Surgical Tuberculosis. (Consulting Surgeon : Sir Henry Gauvain, K.B.E.). During 1938 the new women's surgical ward was opened. In addition to being used for women it has also been used for female children, who form the greater proportion of the female surgical waiting list. The new ward has contributed to a general increase in the surgical work, which has also been facilitated by the enlargement of the operating theatre and the provision of a splint-making department. An indication of the result of these amenities is the increase in the number of operations performed from 109 in 1937 to 230 in 1938. This number does not include the 66 operations performed for the treatment of patients suffering from pulmonary tuberculosis.

There has been no alteration in the general principles of treatment of the patients suffering from non-pulmonary tuberculosis. With the help of the Tuberculosis Officers of the Essex County Council, research has been carried out concerning the after-progress of patients treated at Black Notley. These results have been found to be very satisfactory in the great majority of cases. It was found that operations to strengthen the hip by bone grafting are necessary more often than was previously considered advisable ; on the other hand, it seems that bone grafting operations on the spine should become less frequently necessary. These findings, done independently, have been found to be consistent with similar work done at other hospitals.

The greater part of the operative surgery has been performed by Mr. R. Reid, M.S., F.R.C.S. The administration of anæsthetics by Dr. Fagge has also contributed largely to the smoothness of the work of the surgical team.

X-Ray Department. (Consulting Radiologist : Dr. Franklin G. Wood). There have been two fresh developments in the work of this department. First, the tomographic equipment has been installed. This is particularly useful for the detection of cavities in lungs, which cannot be seen in an ordinary film. Attempts are also being made to ascertain if the apparatus offers the same advantages in the radiography of tuberculous bone lesions. Secondly, it has been found that for many radiographs of a routine nature, when fine detail is not required, paper films are quite adequate and half as expensive. The use of these films for routine work has therefore been started.

Laboratory. (Consulting Pathologist : Dr. F. E. Camps). An efficient pathological service is now available in the Sanatorium. The advantage of this to the clinical side of treatment has been very great.

Artificial Light Treatment. (Consulting Dermatologist : Dr. A. Burrows)
The tendency for patients suffering from bone or joint tuberculosis to relapse towards the end of the winter is as noticeable as the tendency for them to improve during the summer months. During the winter, retrogression can be combated by the substitution of artificial light treatment for natural heliotherapy. This treatment has been given in a skilled manner. Under the direction of Dr. A. Burrows, the artificial light department has been of useful service.

(b) HAROLD COURT SANATORIUM. (Medical Superintendent—Dr. F. G. Brown).

No. of patients admitted during the year	..	..	233
No. of patients discharged during the year as follows :—			236
Discharged home after a period of treatment	..		160
Transferred to The London Chest Hospital	..		23
„ Ilford Sanatorium	..	..	16
„ Preston Hall	..	..	16
„ Burrow Hill Sanatorium Colony	..		10
„ Epping Institution	..	..	3
„ Liverpool Road Hospital	..		2
„ Papworth Village Settlement	..		1
„ Royal National Sanatorium, Bournemouth	..	..	1
„ Black Notley Sanatorium	..		1
„ Church Army Sanatorium, Farnham	..	..	1
„ Royal National Sanatorium, Ventnor	..	..	1
Died	..	..	1
Total			236

Patients who were discharged with disease quiescent or who had made material improvement=75 per cent.

Patients who on discharge had either made no improvement or slight improvement only=25 per cent.

X-Ray Department.

Photographs taken during the year are as follows :—

In-Patients	..	..	..	975
Out-Patients	..	..	..	889
Staff	..	..	..	59
Total				1,923

This shows an increase of 324 as compared with the previous year.

Treatment.

Artificial Pneumothorax has been carried out as follows :—

	1938.	1937.
No. of patients who have received treatment	111 ..	84
Total number of re-fills given ..	2,043 ..	1,380
No. of cases induced at Harold Court..	51 ..	21
No. of Out-Patients	43 ..	31

As will be seen from the above, this form of treatment has been given very much more extensively than in 1937.

16 cases were transferred to the London Chest Hospital for thoracoscopy, and in 14 of these adhesions were divided.

The operation of *Phrenic Avulsion* was carried out on four patients who had been transferred to the London Chest Hospital for this purpose.

Gold Therapy. 22 patients received this treatment, a total number of 191 injections being given.

Cadmium Sulphide. 6 patients were treated with Cadmium Sulphide, and received a total of 53 injections.

(c) HIGH BEECH SANATORIUM. (Medical Officer—Dr. L. S. Fry).

The year was an uneventful one and the sanatorium remained free from any serious outbreak of infectious disease.

All children were Schick tested on admission and those showing a positive reaction immunised with two doses of alum toxoid or by Jensen's combined method.

A classification of the cases admitted during the year is given below :—

Tuberculous Cervical Glands	53 cases
Tuberculous Mesenteric Glands	14 „
Tuberculous Bones and Joints	12 „
“ Observation ”	30 „
<hr/>	
Total	109 „
<hr/>	

“ Observation ” and other cases in which the diagnosis gave rise to doubt were Mantoux tested, with the following results :—

Mantoux negative (2 tests : 1/10,000 and 1/100 old Tuberculin)	24
Mantoux positive	15
<hr/>	
	39
<hr/>	

(2) INSTITUTIONS UNDER AGREEMENT.

Full use was made of the beds available for intermediate and advanced cases of tuberculosis in the specially provided pavilions at the Isolation Hospitals at Ilford (20 beds for men), Chingford (20 beds for women), Thurroek (18 beds for men), and Colchester (12 sanatorium beds for women and 6 hospital beds for both sexes).

(3) INSTITUTIONS NOT UNDER AGREEMENT.

The majority of the beds taken as and when required in other Institutions were at the London Fever Hospital (Liverpool Road), London Chest Hospital, Merivale Sanatorium, Preston Hall and Papworth Hall. These Institutions deserve the highest praise for their readiness to co-operate in the County Tuberculosis Scheme and have done much valuable work.

Travelling Facilities for Patients.

An amount of £74 8s. 0d. was expended during the year in providing necessitous patients with free travelling vouchers upon admission or discharge from Institutions, and special visits to " Out-Patient " Departments.

Extra Nourishment.

During 1938 an amount of £877 12s. 10d. was expended in providing one pint of milk daily for 269 patients.

Care Associations.

Table XXV gives a summary of the work done during 1938 by the Voluntary Care Associations established in the County.

In addition to the Care Associations referred to in the table, the County Council have established a Central Care Fund from which assistance is given to those patients who reside in areas in which no Care Association has been established. Prior to March, 1938, this Central Care Fund was administered by the Chelmsford Care Association, but as the number of applications for assistance from this Fund greatly increased, it was considered advisable for the Fund to be administered from the Public Health Department under the direction of a member of the Public Health Committee.

An amount of £176 14s. 7d. was expended from the Fund during the year ended 31st March, 1939, on extra nourishment and convalescent holidays, etc.

Prevention of Spread of Infection.

No action was taken during the year under Section 62 of the Public Health Act, 1925, for the compulsory segregation of an infectious tuberculosis patient.

The number of shelters on loan to patients at their homes during 1938 was 81.

TABLE XXIII.

(a) SHOWING THE WORK OF THE DISPENSARIES DURING 1938.

DIAGNOSIS.	PULMONARY.				NON-PULMONARY.				TOTAL.				GRAND TOTAL	
	Adults		Children		Adults.		Children		Adults.		Children.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
A.—NEW CASES examined during the year (excluding contacts):—														
(a) Definitely tuberculous ...	380	301	18	16	55	64	89	66	435	365	107	82	989	
(b) Diagnosis not completed ...	...	...	...	...	..	...	...	...	7	10	14	12	43
(c) Non-tuberculous ...	...	...	...	...	...	...	...	...	778	790	295	280	2143
B.—CONTACTS examined during the year:—														
(a) Definitely tuberculous ...	72	71	6	7	1	2	2	3	73	73	8	10	164	
(b) Diagnosis not completed ...	...	...	...	...	...	...	...	...	17	12	8	9	46
(c) Non-tuberculous ...	...	...	...	...	..	...	...	...	345	494	332	288	1459
C.—CASES written off the Dispen- sary Register as														
(a) Recovered ...	40	48	7	6	11	28	40	29	51	76	47	35	209	
(b) Non-tuberculous (includ- ing any such cases previously diagnosed and entered on the Dispensary Register as tuberculous) ...	...	...	...	...	...	...	...	...	1181	1301	654	584	3720
D.—NUMBER OF CASES on Dispen- sary Register on Dec. 31st:—														
(a) Definitely tuberculous ...	2127	1671	95	116	254	336	494	343	2381	2007	589	459	5436	
(b) Diagnosis not completed ...	...	...	...	...	...	...	...	...	24	22	22	21	89

1. Number of cases on Dispensary Register on January 1st ...	5474	8. Number of visits by Tuberculosis Officers to homes (including personal consultations) ...	2330
2. Number of cases transferred from other areas and cases returned after discharge under Head 3 in previous years	393	9. Number of visits by Nurses or Health Visitors to Homes for Dispensary purposes ...	23872
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases "lost sight of" ...	750	10. Number of (a) Specimens of sputum, &c., examined ...	2842
4. Cases written off during the year as dead (all causes) ...	507	(b) X-ray examinations made in connection with Dispensary work	6703
5. Number of attendances at the Dispensary (including contacts) ...	22426	11. Number of "recovered" cases restored to Dispensary Register and included in A (a) and A (b) above ...	7
6. Number of insured persons under domiciliary treatment on the 31st December	536	12. Number of "T.B. plus" cases on Dispensary Register on December 31st ...	2427
7. Number of consultations with medical practitioners:— (a) Personal ...	479		
(b) Other ...	4074		

(b) NUMBER OF DISPENSARIES FOR THE TREATMENT OF TUBERCULOSIS (excluding centres used only for special forms of treatment).

Provided by the Council ..	..	..	..	24
Provided by Voluntary Bodies ..	..	..	..	Nil.

TABLE. XXIV.

(a) SHOWING THE EXTENT OF RESIDENTIAL TREATMENT AND OBSERVATION DURING THE YEAR 1938 IN INSTITUTIONS (OTHER THAN PUBLIC ASSISTANCE INSTITUTIONS)

		In Institu- tions on Jan. 1st. (1)	Admitted during the year. (2)	Discharged during the year. (3)	Died in the Insti- tions. (4)	In Institu- tions on Dec. 31st. (5)
Number of doubtfully tuberculous cases ad- mitted for observation	Adult males	4	66	59	4	7
	Adult females	5	37	39	—	3
	Children	19	109	99	1	28
	Total	28	212	197	5	38
Number of patients suffering from pulmon- ary tuberculosis	Adult males	333	507	371	111	358
	Adult females	261	514	396	72	307
	Children	22	37	31	3	25
	Total	616	1058	798	186	690
Number of patients suffering from non- pulmonary tuberculosis	Adult males	47	82	85	3	41
	Adult females	56	97	100	4	49
	Children	118	166	181	1	102
	Total	221	345	366	8	192
GRAND TOTAL		865	1615	1361	199	920

(b) SHOWING THE EXTENT OF RESIDENTIAL TREATMENT PROVIDED DURING THE YEAR 1938 IN PUBLIC ASSISTANCE INSTITUTIONS.

		In Institu- tions on Jan. 1st. (1)	Admitted during the year. (2)	Discharged during the year. (3)	Died in the Insti- tions. (4)	In Institu- tions on Dec. 31st. (5)
Number of patients suffering from pulmon- ary tuberculosis	Adult males	12	36	21	19	8
	Adult females	9	13	7	6	9
	Children	—	2	1	1	—
	Total	21	51	29	26	17
Number of patients suffering from non-pul- monary tuberculosis	Adult males	1	8	8	1	—
	Adult females	1	2	3	—	—
	Children	—	—	—	—	—
	Total	2	10	11	1	—
GRAND TOTAL		23	61	40	27	17

(c) SHOWING THE RESULTS OF OBSERVATION OF DOUBTFULLY TUBERCULOUS CASES DISCHARGED FROM INSTITUTIONS DURING 1938.

Diagnosis on discharge from observation.	FOR PULMONARY TUBERCULOSIS.						FOR NON-PULMONARY TUBERCULOSIS.						TOTALS.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous	4	2	—	8	5	11	—	1	—	1	2	28	13	10	39
Non-tuberculous ..	29	11	5	14	9	20	—	2	4	3	7	31	46	29	60
Doubtful	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Died	1	—	1	2	—	—	1	—	—	—	—	—	4	—	1
TOTALS	34	13	6	24	14	31	1	3	4	4	9	59	63	39	100

(d). NUMBER OF BEDS AVAILABLE FOR THE TREATMENT OF TUBERCULOSIS ON THE 31ST DECEMBER IN INSTITUTIONS BELONGING TO THE COUNCIL.

Name of Institution.	For Pulmonary Cases.		For Non-Pulmonary Cases.		Total.
	Adults.	Children under 15.	Adults.	Children under 15.	
Black Notley	140	*19	M. 28 F. *33	*52	272
Harold Court	90	—	—	—	90
High Beech	—	—	—	36	36
Epping Institution (Tuberculosis Block) ..	39	—	2	—	41
Oldchurch County Hospital, Romford ..	26	—	12	8	46
*These numbers fluctuate according to requirements.					
<i>Public Assistance Institutions.</i>					
Billericay	1	1	—	—	2
Chelmsford	—	1	—	—	1
Colchester	1	—	—	—	1
Maldon	2	—	—	—	2
Orsett	2	—	—	—	2
Stanway	1	1	—	—	2
Tendring	3	4	—	—	7

TABLE XXV.

TUBERCULOSIS CARE ASSOCIATIONS IN ESSEX.

(The information given in this Table is in respect to the year ended 31st March, 1939).

Name of Association.	Day and Time of Meetings.	Income including Balance in hand.	Expenditure.			Total No. of Cases assisted.	Nature of Assistance Provided.
			Assist- ance.	Other Items.			
BARKING ...	Third Monday in the month at 8 p.m.	£ s. d. 349 2 2	£ s. d. 288 4 2	£ s. d. 18 4 5	59	Extra Nourishment Clothing Fares	
CHELMSFORD ...	Fourth Monday in the month at 7 p.m.	503 12 10	199 12 0	61 2 11	36	Extra Nourishment Convalescent Holiday Treatment Boots and Clothing Fares	
DAGENHAM ...	Third Thursday in the month at 8.15 p.m.	652 1 0	294 4 10	21 10 0	69	Extra Nourishment Clothing Surgical and Nursing Appliances Fares	
GRAYS ...	Fourth Monday in the month at 5.30 p.m.	420 11 9	258 12 11	17 1 5	48	Extra Nourishment Convalescent Holiday Treatment Clothing Fares	
ILFORD ...	First Thursday in the month at 7.30 p.m.	798 17 0	622 14 10	26 15 9	93	Extra Nourishment Convalescent Holiday Treatment Surgical, Optical and Nursing Appliances Clothing Fares	
LEYTON ...	Third Friday in the month at 7.30 p.m.	814 5 1	558 17 3	69 3 6	135	Extra Nourishment Convalescent Holiday Treatment Clothing Fares	
ROMFORD AND HORNOCHURCH	Fourth Thursday in the month at 8 p.m.	773 19 5	392 1 1	38 0 2	63	Extra Nourishment Convalescent Holiday Treatment Clothing Fares	
SAFFRON WALDEN	Fourth Tuesday in the month at 2.30 p.m.	155 8 9	131 16 10	6 19 0	63	Extra Nourishment Convalescent Holiday Treatment	
WALTHAMSTOW	First Friday in the month at 7 p.m.	701 0 9	306 7 6	80 10 8	93	Extra Nourishment Convalescent Holiday Treatment Clothing Patient's Laundry Fares, &c.	

TABLE XXVI.

SHOWING THE IMMEDIATE RESULTS OF TREATMENT OF DEFINITELY TUBERCULOUS PATIENTS DISCHARGED FROM INSTITUTIONS DURING THE YEAR 1938.

Classification on admission to the Institution.		Condition at time of discharge.	Duration of Residential Treatment in the Institution.															GRAND TOTALS.
			Under 3 months, but exceeding 28 days.			3-6 months.			6-12 months.			More than 12 months.			Totals.			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
PULMONARY TUBERCULOSIS.	Class T.B. minus.	Quiescent	19	18	1	21	41	5	17	16	14	3	16	5	60	91	25	176
		Not quiescent ..	3	8	2	18	5	—	8	9	1	6	7	—	35	29	3	67
		Died in Institution	3	2	1	4	—	—	4	1	—	2	1	—	13	4	1	18
	Class T.B. plus Group 1.	Quiescent	7	6	—	5	10	—	9	9	—	1	6	—	22	31	—	53
		Not quiescent ..	3	1	—	7	1	—	3	2	—	3	1	—	16	5	—	21
		Died in Institution	2	—	—	2	—	—	—	—	—	—	—	—	4	—	—	4
	Class T.B. plus Group 2.	Quiescent	6	4	—	33	14	1	28	42	—	10	11	—	77	71	1	149
		Not quiescent ..	26	38	1	45	24	1	37	46	—	16	17	—	124	125	2	251
		Died in Institution	16	14	—	10	9	—	16	13	1	8	6	—	50	42	1	93
	Class T.B. plus Group 3.	Quiescent	2	—	—	—	—	—	1	—	—	1	—	—	4	—	—	4
		Not quiescent ..	2	1	—	2	5	—	4	19	—	2	1	—	10	26	—	36
		Died in Institution	4	3	—	4	—	—	3	6	—	7	7	—	18	16	—	34
	TOTALS (pulmonary)		93	95	5	151	109	7	130	163	16	59	73	5	433	440	33	906
NON-PULMONARY TUBERCULOSIS.	Bones and Joints.	Quiescent	7	3	14	3	4	12	16	18	9	16	10	14	42	35	49	126
		Not quiescent ..	1	—	1	—	2	—	1	2	—	1	—	—	3	4	1	8
		Died in Institution	—	—	1	—	—	—	1	—	—	1	2	—	2	2	1	5
	Abdominal.	Quiescent	—	8	5	1	6	3	—	6	1	2	—	—	3	20	9	32
		Not quiescent ..	1	4	—	—	—	1	—	—	—	—	—	—	1	4	1	6
		Died in Institution	—	1	—	—	—	—	—	1	—	—	—	—	—	2	—	2
	Other Organs.	Quiescent	5	2	—	6	1	4	1	2	—	1	1	4	13	6	8	27
		Not quiescent ..	3	1	2	1	—	1	2	1	—	1	—	1	7	2	4	13
		Died in Institution	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	1
	Peripheral glands.	Quiescent	3	5	41	2	7	37	—	1	21	—	—	1	5	13	100	118
		Not quiescent ..	2	1	—	—	3	1	—	—	—	—	—	—	2	4	1	7
		Died in Institution	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	TOTALS (non-pulmonary)		22	25	64	13	23	59	21	31	31	23	13	20	79	92	174	345

TABLE XXVII.

(a) PULMONARY TUBERCULOSIS.

(a) PULMONARY TUBERCULOSIS.

Table showing in summary form (a) the condition at the end of 1938 of all patients remaining on the Dispensary Register; and (b) the reasons for the removal of all cases written off the Register. The Table is arranged according to the years in which the patients were first entered on the Dispensary Register as definite cases of pulmonary tuberculosis, and their classification at that time.

[illegible]

TABLE XXVIII.

(b) NON-PULMONARY TUBERCULOSIS.

Table showing in summary form (a) the condition at the end of 1938 of all patients remaining on the Dispensary Register and (b) the reasons for the removal of all cases written off the Register.

90B

Condition at the time of the last record made during the year to which the Return relates.			Previous to 1928.					1928.					1929.					1930.					1931.					1932.					1933.					1934.					1935.					1936.					1937.					1938.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
			Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.	Bones and Joints.	Abdominal.	Other Organs.	Peripheral Glands.	TOTAL.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
(a) Reporting on Dispensary Register on 31st December.	Disease arrested.	Adults.	M.	20	1	5	1	27	2	1	1	...	4	5	...	1	...	6	3	...	1	...	4	3	3	6	5	...	2	1	8	3	...	1	...	4	6	2	4	2	14	7	...	2	3	12	4	1	2	4	11	10	...	4	5	19	3	4	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		F.	24	1	7	7	39	1	1	2	3	1	3	1	8	3	3	6	1	1	1	9	5	2	3	3	13	6	5	1	2	14	7	5	3	10	15	7	5	3	8	23	6	3	3	9	21	4	3	6	11	24	1	2	1	6	10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Children.	M.	9	...	9	...	18	1	...	1	...	2	1	...	1	...	2	1	1	3	2	5	4	...	1	...	5	2	1	3	3	1	2	...	6	3	...	3	1	7	10	...	4	1	42	68	5	5	1	23	34	5	3	...	20	28																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
		F.	3	2	5	3	13	1	1	2	...	2	...	4	2	2	1	...	6	3	...	1	...	4	3	2	1	2	8	1	...	1	1	3	5	1	1	...	7	4	2	3	2	11	7	2	5	2	16	6	3	7	5	21	8	7	10	22	47																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Condition not ascertained during the year			1	...	1	1	3	1	1	2	...	1	...	3	1	1	1	1	1	1	1	1

PART III.

MATERNITY AND CHILD WELFARE.

(1) COUNTY AREA. This area remains the same as that set out in the report for the year 1937.

The following information is given regarding the County Council's Child Welfare Area for the year 1938 :—

	Estimated Population.	No. of Births notified by		No. of Births Unnotified.	No. of Notifications of		
		Midwives.	Drs. and Parents.		Puerperal Pyrexia.	Ophthalmia Neonatorum.	Maternal Deaths.
Total ..	499350	3683	2569	260	79	16	23

The maternal mortality rate for the County Council's Child Welfare Area according to the Registrar-General is 2.94, as compared with the rate of 2.12 for the Administrative County and 2.97 for England and Wales.

(2) HEALTH VISITORS. On 31st December, 1938, the Health Visiting staff was as follows :—

Whole-time (also undertaking School and Tuberculosis duties)	44	} Equivalent whole-time H.V. for C.W.=19 (approx.)
Part-time	1	

(3) ANTE-NATAL CLINICS, MATERNITY AND CHILD WELFARE CENTRES, WEIGHING CENTRES, TODDLERS' CLINICS AND WOMEN'S WELFARE CENTRES. At the end of the year 1938 there were 27 Ante-natal Clinics, 111 Child Welfare Centres, 14 Toddlers' Clinics, 10 Weighing Centres and 8 Women's Welfare Centres in the County Child Welfare Area. During the year new Clinics were established as follows :—

Ante-natal Clinics :—East Hanningfield, Dunmow, Rainham, Harold Wood and Hornchurch (Abbs Cross).

Child Welfare Centres :—Bulmer, Hockley, Hornchurch (Abbs Cross), Roxwell, St. Osyth and Bowers Gifford.

Weighing Centres :—Little Warley and Doddinghurst.

Toddlers' Clinic :—Witham.

The services of Mrs. B. G. Richardson as Domestic Science Teacher, referred to in detail last year, have been continued.

(4) PROVISION OF MILK AND MEDICAMENTS. The two schemes outlined in previous reports for (a) the provision of wet milk and (b) medicaments through local chemists, were continued. From 1st April, 1938, the Scheme was extended to include expectant mothers at any stage during the whole period of pregnancy.

(5) DENTAL TREATMENT AND DENTURES. The Scheme as outlined in previous reports was continued throughout the year. 1859 patients were treated at a cost to the County Council of £1,919 4s. 8d., of which £600 2s. 3d. was recovered from patients as contributions.

(6) HOME HELPS. The Scheme for the provision of Home Helps outlined in the report for 1935 was continued in the Hornchurch, Laindon and Brentwood areas, and extended during the year under review to the Pitsea and Braintree areas.

(7) TRAVELLING EXPENSES OF MOTHERS ATTENDING CHILD WELFARE AND WEIGHING CENTRES. At the end of the year 1938, 62 Child Welfare Centres and Weighing Centres were participating in the Scheme, an increase of 13 on the previous year.

(8) PUBLIC HEALTH (NOTIFICATION OF PUERPERAL FEVER AND PUERPERAL PYREXIA) REGULATIONS, 1926. Copies of notifications made by medical practitioners were received from Medical Officers as indicated below :—

	Administrative County.				C.C. Child Welfare Area.			
	1937.		1938.		1937.		1938.	
Puerperal Pyrexia	..	*253	..	318	..	*66	..	79

*On the 1st October, 1937, the term "puerperal fever" was dispensed with and only the term "puerperal pyrexia" retained for notification purposes. These figures include notifications of puerperal fever for nine months of the year 1937.

Obstetric Specialists, Consulting Physician and Pathologist, Skilled Nursing, Bacteriological Examinations of Lochia and Blood, Hamolytic Tests. These services, referred to in the report for 1937, were continued throughout the year 1938.

Institutional Treatment. During the year 1938, 24 patients suffering from puerperal pyrexia were admitted to Hospitals and Institutions under the Public Health Committee's arrangements, at a cost of £271 16s. 6d. the amount recovered from patients being £11 2s. 9d.

(9) PUBLIC HEALTH (OPHTHALMIA NEONATORUM) REGULATIONS, 1926-1937. During the year 1938, 66 cases of Ophthalmia Neonatorum were notified in the Administrative County. 16 of the above notifications relate to patients living in the County Child Welfare Area, and the following particulars of these patients have been obtained :—

Treated—				Vision Unimpaired.		Vision Impaired.		Total Blindness.		Deaths.
At Home.	In Hospital.			R.	L.	R.	L.	R.	L.	
13	3	..		16	16	..	—	—	..	—

One patient was admitted to Hospital during the year under the County Council's arrangement for the treatment of this disease with satisfactory results.

(10) PREVENTION OF BLINDNESS. Ante-partum treatment of mothers who were infected with Venereal Disease was carried out, thereby preventing the occurrence of Ophthalmia Neonatorum or congenital syphilis in a large proportion of cases.

(11) **HOSPITAL TREATMENT FOR MATERNITY PATIENTS.** The arrangements for the treatment of complicated or difficult cases of confinement and those which could not be confined with safety in their own homes have continued, and during the year 830 patients have been admitted to Hospital.

(12) **CONVALESCENT TREATMENT—MOTHERS AND CHILDREN.** Arrangements were made for three mothers with their babies and 19 children under five years of age to receive convalescent treatment during the year.

(13) **TREATMENT OF MINOR AILMENTS—CHILDREN UNDER SCHOOL AGE.** The scheme was continued and 123 children under school age received operative treatment during the year for Adenoids and Enlarged Tonsils, Circumcision or Hernia.

(14) **TREATMENT OF ORTHOPAEDIC PATIENTS.** Full details of the scheme for the treatment of orthopaedic patients adopted by the Public Health and Education Committees were given in the Annual Report for 1927.

As far as children of school age are concerned, these are dealt with in the School Medical Officer's Annual Report so that the following information relates only to children under school age in the County Council's Child Welfare area :—

(a) *Number of cases on Books.* At the end of 1938 there were approximately 326 Child Welfare patients requiring treatment, supervision or observation.

(b) *Ascertainment and Re-examination Clinics.* During 1938 Mr. Whitechurch Howell attended 63 clinic sessions for the County Council and carried out 452 examinations of County patients under school age.

(c) *Hospital Treatment.* The following figures relate to the number of Child Welfare patients who completed treatment and those who were admitted during the year 1938, as compared with 1937 :—

	Completed Treatment. 1938.		Admitted. 1938.		Completed Treatment. 1937.		Admitted. 1937.	
Brookfield Orthopaedic Hospital	6	..	15	..	8	..	10	
Oldehurch County Hospital	..	—	..	1	..	5	..	3
Other Hospitals	..	7	..	9	..	12	..	10

The Orthopaedic Scheme continues to provide adequate treatment and after-care.

During 1938 it was found necessary to establish further After-Treatment Centres, and in January a monthly session was commenced at Saffron Walden and one at Rainham in April, thus making a total of 22 centres in the area served. 1,618 attendances of children under school age were made.

Brookfield Orthopaedic Hospital (30 beds). During the year 80 patients were admitted, including 30 County Council cases (15 Child Welfare and 15 Education cases). The remaining 50 patients were sent by autonomous Child Welfare and Education Authorities.

NURSING HOMES.

The number of registered Homes at the end of the year was as follows :—

(a) Maternity Homes only	..	..	..	22
(b) Maternity and Nursing Homes	..	..	..	26
(c) Nursing Homes (including Convalescent Homes)	..	..	..	14

Routine inspections of nursing homes have been made at regular intervals by the Central Office staff and during the year 1938 assistance in this respect was also rendered by certain of the Medical Officers of Health who hold combined posts under the County Council and the Local Sanitary Authority.

The co-operation of local Medical Officers of Health, medical practitioners and members of the County Council's staff continued to be sought in attention being called to the provisions of the Act to persons desiring to carry on a nursing home, and in ascertaining whether there were any unregistered Homes in the County area.

CHILD LIFE PROTECTION.

At the end of the year there were 625 registered foster children in the care of 385 foster mothers.

In October, 1938, a lady inspector from the Ministry of Health carried out a survey of the arrangements for Child Life Protection and certain useful suggestions were made, *i.e.*, as far as possible in small foster homes the foster mother should only be allowed to accommodate one infant at a time under the age of 12 months, and it was not considered desirable for foster children to be placed in homes with mentally defective children.

MIDWIFERY SERVICE.

(a) GENERAL. Full details of the County Council's Scheme approved under the Midwives Act, 1936, were given in the report for the year 1936. At the end of the year 1938 the following midwives were employed under the Scheme, and the table also shows the number of cases attended during that year :—

			Midwifery.		Maternity.
18 County Council Midwives	..	..	601	..	271
21 Welfare Council Midwives	..	..	840	..	438

Application was made to the Ministry of Health in November, 1938, with a view to invoking Section 6 of the Midwives Act, 1936, and this is still under consideration.

(b) POST-GRADUATE COURSES FOR MIDWIVES. Under Section 7 of the Midwives Act, 1936, each Local Supervising Authority is required to arrange for midwives practising in its area to undertake a residential post-graduate course of four weeks once in every seven years. The County Council have made arrangements for their midwives to undertake such a Course at the Plaistow Maternity Hospital and District Nurses' Home, Howards Road, Plaistow.

(c) **PRACTISING MIDWIVES.** The following table shows the number of midwives in practice at the end of the year 1938 :—

Total No. of Midwives in Practice at end of year.		Trained.		L.O.S. Certificated.	
		Dep.	Indep.	Dep.	Indep.
288	..	215	..	70	..
				2	..
					1

The total number of live births and still births which occurred during the year 1938 in the Administrative County, excluding Barking, Colechester, Dagenham, Ilford, Leyton and Walthamstow Boroughs was 11,712 and of these, 4,531 (38.7 per cent.) were attended by midwives in the capacity of a midwife, and 3,298 (28.2 per cent.) as maternity nurses under the supervision of medical practitioners.

(d) **HANDYWOMEN.** During the year 1938 no reports were received regarding cases of confinement attended by women who were not certified midwives.

Puerperal Pyrexia and Ophthalmia Neonatorum.

Special investigations were made into all cases of high temperature of mother and discharging eyes of infant in a midwife's practice. The results of these investigations showed that during 1938 in one case of high temperature the rules of the Central Midwives Board were not properly carried out. A warning letter was sent to the midwife concerned.

Pemphigus Neonatorum.

All suspected cases of Pemphigus Neonatorum occurring in a midwife's practice are investigated to ensure that every possible precaution is taken to prevent a spread of the disease.

Enquiries were made into 30 suspected or actual cases occurring in Benfleet (1) Billericay (2), Chelmsford (2), Chigwell (2), Dunmow (1), Romford (1), Tending (1), Thurrock (18) and Wanstead and Woodford (2).

Inspection Visits.

1,107 routine visits were made to midwives during the year, and of these 52 were undertaken by Assistant County Medical Officers and 1,055 by the Chief Health Nurse and her Assistants and the Relief Health Visitor.

Written cautions were sent to seven midwives for minor infringements of the rules other than those referred to in the paragraph relating to Puerperal Pyrexia and Ophthalmia Neonatorum above.

Doctors' Fees.

In accordance with Section 14 of the Midwives Act, 1918, during the year ended 31st December, 1938, the County Council paid the sum of £2,256 19s. 0d. as fees to medical practitioners and recovered from patients during the year the sum of £654 5s. 5d.

1,899 records of medical aid having been called in by certified midwives were received during the year 1938, as compared with 1,805 during the year 1937.

Lectures.

The Essex Midwives' Association arranged a special course of Lectures in Chelmsford, which was held in May and June, 1938.

Essex County Nursing Association.

(a) GENERAL. For the year 1938 the sum of £13,647 12s. 1d. was paid by the County Council to the County Nursing Association in accordance with the agreement.

(b) DISTRICT NURSING ASSOCIATIONS. At the end of 1938 the number of District Nursing Associations in the Administrative County which were affiliated to the County Nursing Association and which employed 191 Nurses was as follows :—

No. of affiliated D.N. Associations.	No. undertaking Midwifery and District Nursing.	No. performing Maternity and District Nursing duties only.
153	149	4 (3 of which under- take general nursing only).

District Nurses belonging to affiliated Associations during the year 1938 made the following visits :—Midwifery 54,042, Maternity 34,839, District General 208,651, District Tuberculosis 3,015, Health Visiting—Pre-natal 21,693, Post-natal 31,101 and Home Visits (school children) 6,324.

Of the 153 affiliated Associations, 148 participate in the County Council's Combined Nursing Scheme.

General.

During the year arrangements were made for children under the age of five years to undergo ultra-violet light treatment or attend Speech Training Classes where necessary.

COMBINED MEDICAL SERVICE.

MALDON BOROUGH. The Combined Medical Service was continued during the year, the only amendment being that as and from 1st October, 1938, Dr. J. L. Miller Wood, First Assistant County Medical Officer on the County Council's Central Office Staff and also Medical Officer of Health for the Burnham-on-Crouch Urban District, was appointed Medical Officer of Health for the Borough of Maldon in place of the late Dr. H. Reynolds Brown.

CHIGWELL URBAN DISTRICT. During the year the question of a joint appointment by the County Council and the Urban District Council of Chigwell was again considered, in view of the impending retirement of the part-time Medical Officer of Health, Dr. C. R. Dykes, in 1939.

After conferences between the two Authorities, it was finally decided that Dr. L. S. Fry, Medical Officer of Health for the Chingford Borough and the Waltham Holy Cross Urban District and Assistant County Medical Officer for the County Council, should resign the post of Medical Officer of Health for Chingford and take up the

appointment of Medical Officer of Health for Chigwell. This new arrangement commenced on 1st June, 1939, and to fill the vacancy at Chingford Dr. G. B. Murray was appointed Medical Officer of Health for the Borough and also Assistant County Medical Officer. The necessary adjustment of salaries between the various Authorities concerned in the above re-arrangements has been made.

COMBINED TREATMENT CENTRES.

During the year under review the following Combined Treatment Centres were opened :—

Centre.			Date.
Canvey Island	..	..	.. 15th June, 1938.
Rayleigh..	..	..	.. 28th June, 1938.
Billericay	..	..	.. 21st October, 1938.
Hornchurch (Abbs Cross)	..	..	.. 3rd November, 1938.
Burnham-on-Croueh..	..	..	.. 20th December, 1938.

In previous years the following Combined Treatment Centres have been opened :—

Maldon	South Benfleet	Thundersley
Laindon	Pitsea	Epping
Chingford	Hadleigh	Braintree
Hornchurch (Westland Avenue)	Vange	Rainham
	Waltham Abbey	

PART IV.

PUBLIC ASSISTANCE.

General.

Conferences have taken place between representatives of the Public Health and the Public Assistance Committees with a view to the appropriation by the former of the hospital portions of Public Assistance Institutions. It is anticipated that a settlement will be reached during the year 1939.

Provision for the Sick in Public Assistance Institutions.

Table XXIX on page 100a shows the number of sick beds available on 31st December, 1938, in the 12 County Public Assistance Institutions, together with the number of patients admitted and discharged.

Dental Treatment.

Arrangements whereby Public Assistance patients were treated, where possible by whole-time members of the County Dental Staff, and also by private dental practitioners, were continued.

Major Improvements carried out at Institutions during the year.

BILLERICAY. Additional maternity accommodation was provided at the St. Andrew's Hospital, Billericay, and plans in connection with the extension of the hospital to accommodate 147 patients referred to in last year's report are at present under consideration.

CHELMSFORD. The work in connection with the extension of the maternity accommodation at the St. John's Hospital will be completed during 1939 to provide an additional 16 maternity beds.

It has been decided to purchase Moulsham Grange, Chelmsford, which is situated near the hospital, to provide additional accommodation for the nursing staff.

TENDRING. Approval has been given to plans to provide an additional 20 beds for male and female patients at the Heath Hospital.

GREAT WEST HATCH, CHIGWELL. The conversion of the main block at Great West Hatch to accommodate 39 epileptic patients in the first instance is in progress and will be completed in 1939.

SUTTONS INSTITUTION, HORNCURCH. See page 71 in the Hospital Section of this report.

Medical Staff—Public Assistance Institutions.

There were no changes in the Medical Staff of the various Public Assistance Institutions during the year. A list of the staff will be found in Table XXIX on page 100a.

Children's Homes.

Below are appended details of the children's homes in the Administrative County :—

Area.	Address of Home.	Beds available, 31st December, 1938.		Beds occupied 31st December, 1938.	
		Boys.	Girls.	Boys.	Girls.
Colchester	.. The Institution, Villa Road, Stanway	—	.. 51	.. —	.. 36
	“ The Chestnuts,” “ The Firs,” “ The Limes,” “ The Oaks,” Tendring, Nr. Weeley	54	.. —	.. 48	.. —
Braintree	.. “ Friars,” Bradford Street, Bocking, Braintree	13	.. 18	.. 12	.. 14
Saffron Walden	New Street, Dunmow ..	8	.. 12	.. 8	.. 10
Epping	.. Coopersale Common, Epping	24	.. 23	.. 23	.. 20
Southern	.. Scattered Homes ..	102	.. 66	.. 90	.. 56
	Headquarters :— Harold Wood Hall, Harold Park, Romford				
Chelmsford	.. “ The Gables,” High Street, Maldon	26	.. —	.. 26	.. —
	“ Foxcroft,” High Street, Billericay	—	.. 25	.. —	.. 25
	“ Greenbourne,” Writtle	32	.. —	.. 32	.. —

During the year 1938 Nos. 1 & 2, The Croft, Heath Park Road, Romford, were closed and two new cottages opened at Harold Wood Hall.

Children's Summer Camps.

315 children from the Public Assistance Homes attended the holiday camp at Mersea in August, 1938.

Maternity.

The maternity work undertaken at nine of the County Public Assistance Institutions during the year again shows an increase as follows :—

	1937.	1938.
Total number of beds available for maternity cases ..	58	.. 68
Total number of maternity cases confined therein ..	435	.. 527

From 1st January, 1938, arrangements were made to send all maternity patients suffering from puerperal sepsis and allied conditions to certain isolation hospitals having facilities for the treatment of these conditions, and such patients are no longer accepted for treatment at the Oldchurch County Hospital and St. John's Hospital.

Examination of Bacteriological Specimens.

The Public Assistance Committee's arrangement with Dr. E. V. Suckling, Bacteriologist for Essex, for the examination of bacteriological specimens from Institutions was continued. Seven hundred and eleven specimens were submitted during the year 1938.

District Medical Officers.

At the end of the year 1938 there were 130 part-time District Medical Officers, apart from those participating in the Free Choice of Doctor Scheme—*see below*.

Free Choice of Doctor Scheme.

Details of the schemes in operation in the Clacton, Chingford and Walthamstow districts, all of which have been continued successfully with slight amendments, have been given in previous reports.

During the year 1939 the scheme is to be extended to operate in 132 parishes in the following sanitary districts :—

Dunmow R. (part)	Frinton and Walton U.D.
Chelmsford R. (part)	West Mersea U.
Saffron Walden R. (part)	Maldon R. (part)
Braintree R.	Witham U.
Braintree and Bocking U.	Canvey Island U.
Halstead R. (part)	Benfleet U.
Lexden and Winstree R. (part)	Rayleigh U.
Wivenhoe U.	Rochford R. (part)
Tendring R. (part)	Barking B.
	Dagenham B.

TABLE XXIX.

100a

TABLE A SHOWING BEDS PROVIDED AND OCCUPIED FOR SICK, MATERNITY AND MENTAL CASES FOR THE 12 MONTHS ENDED
31ST DECEMBER, 1938, IN PUBLIC ASSISTANCE INSTITUTIONS BELONGING TO THE COUNTY COUNCIL†
(As shown in the Return Hosp. 6).

Area.	Institution.	Name, Address and 'Phone No. of Medical Officer.	No. of Beds available.			No. of Admissions.	No. of women confined.	Live-Births.	Still-Births.	Deaths among newly-born.	Deaths among Children under 1 year.	Maternal Deaths.	Total No. of Deaths.	No. of patients discharged.	No. of Beds occupied.			No. of operations under general anaesthetics.	No. of Abdominal Sections.
			Men. 1.	Women. 2.	Children* (under 16). 3.										Average. 13.	Highest. 14.	Lowest. 15.		
Colchester ..	St. Mary's Hospital, Colchester	W. F. Payne, Sussex Lodge, Lexden Road, Colchester. 'Phone No. Colchester 2550.	74	72	8	447	29	28	1	1	1	1	145	287	110	131	99	13	5
	St. Allbright's Hospital, Stanway	Do. Do.	34	53	—	89	—	—	—	—	—	—	46	41	53	63	48	—	—
	Heath Hospital, Tendring	F. Atthill, Laurels, Great Bentley. 'Phone No. Great Bentley 11.	48	78	8	215	12	12	—	—	1	—	78	135	121	129	114	—	—
Braintree ..	St. Michael's Hospital, Braintree	T. W. Panter, Bradford Street, Bocking. 'Phone No. Braintree 13.	43	68	8	258	—	—	—	—	3	—	101	141	106	115	92	—	—
Saffron Walden ..	Saffron Walden ..	J. H. Bartlett, Saffron Walden. 'Phone No. Saffron Walden 27.	30	40	1	134	6	6	—	—	—	—	48	93	69	78	44	—	—
Epping ..	St. Margaret's Hospital, Epping	R. Evans, Elm Bank, Station Road, Epping. 'Phone No. Epping 95.	110	138	8	931	54	49	6	—	1	1	189	740	220	229	204	28	—
Southern ..	Gt. West Hatch, Chigwell	E. Miles, Oldchurch County Hospital, Romford, 'Phone No. Romford 3666.	—	56	—	4	—	—	—	—	—	—	—	3	54	55	52	—	—
	Suttons Institution, Hornchurch	Do. Do.	20	20	—	158	—	—	—	—	—	—	30	101	20	28	16	—	—
South Eastern ..	Union Lane Lodge Hospital, Orsett	F. A. M. Nelson, Orsett. 'Phone No. Orsett 47.	76	117	33	1240	90	86	4	2	16	—	349	925	191	250	168	—	—
Chelmsford..	St. Andrew's Hospital, Billericay	J. D. Fiddes, Ruhislaw, Mount Avenue, Hutton. 'Phone No. Brentwood 110.	51	69	17	838	—	—	—	—	4	—	186	627	110	134	87	153	23
	St. John's Hospital, Chelmsford	J. T. Whitley, Thorneybrook, London Road, Chelmsford. 'Phone No. Chelmsford 2194.	54	86	4	906	288	271	21	13	15	2	125	810	118	142	99	29	8
	St. Peter's Hospital, Maldon	M. J. T. Wallis, 25, London Road, Maldon. 'Phone No. Maldon 91.	23	92	4	379	24	23	1	—	—	—	143	231	89	107	70	16	—
Totals			553	889	91	5599	503	475	33	15	41	4	1440	4134	1261	1451	1093	239	36

†Particulars of beds in Hospitals belonging to the County Council are shown in Table XVII on page 70a.

*Excluding cots in Maternity Wards.

BIRTHS, DEATHS, ANNUAL RATES, &c., 1938.

SANITARY DISTRICT	CENSUS, 1931.	Registrar-General's figures.				DEATHS AT VARIOUS AGES (Figures supplied by Medical Officers of Health.)																			CRUDE ANNUAL RATES PER 1,000 OF ESTIMATED POPULATION.				
		Average.	Adjusted Population.	Estimated Resident Population.	Live Births.	Still Births.	Deaths at all ages.		Deaths under 1 year of age.	Deaths at various ages											Total Deaths.	Birth-rate.	Death-rate.	Zymotic Death-rate.	T.R. Respiratory Death-rate.	Other Respiratory Death-rate.	Comparability Factor.	Standardised Death rate.	Infant Mortality Rate per 1,000 Births
							Under 1 year.	1 and under 2.		2 and under 5.	5 and under 15.	15 and under 25.	25 and under 35.	35 and under 45.	45 and under 65.	65 and under 75.	75 and upwards.												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)		
BARKING B.	3,877	51,270	76,790	1,113	48	550	45	45	3	16	21	22	33	44	51	75	108	131	548	14.5	7.2	0.3	0.1	0.7	1.25	9.0	40		
BENTLEY	6,361	12,091	16,300	199	9	212	8	8	1	2	3	8	8	9	12	30	69	62	212	12.2	13.0	0.1	0.7	0.6	0.83	10.8	40		
*BILERICAY	23,567	27,708	34,820	483	15	409	26	26	1	2	7	5	6	17	33	59	122	131	409	13.9	11.7	0.2	0.5	0.9	0.89	10.4	54		
BRAINTREE AND BUCKING	6,812	13,497	14,800	209	5	180	7	7	1	1	3	3	11	7	11	30	55	53	180	14.1	12.2	0.1	0.3	0.9	0.90	11.0	33		
BRENTWOOD	18,269	23,694	27,420	378	12	270	11	11	...	1	5	5	12	15	25	32	69	95	270	13.8	9.8	0.04	0.4	0.5	0.93	9.1	29		
BRIGHTLINGSEA	2,852	4,147	4,210	45	...	63	1	1	...	...	...	...	1	...	8	10	15	27	63	10.6	13.0	...	0.2	0.5	0.96	9.9	22
BURNHAM-ON-CROUCH	5,852	3,492	3,545	46	2	51	1	2	2	1	...	3	3	4	16	20	51	13.0	14.4	0.3	0.3	0.8	0.75	10.8	22	
CARVEY ISLAND	4,351	3,532	6,579	88	4	84	8	8	2	1	1	5	9	11	27	20	84	13.4	12.8	...	0.2	1.4	0.91	11.6	91	
CHELMFORD B.	4,772	27,457	31,400	450	19	297	14	14	2	2	6	9	13	14	42	39	71	85	297	14.3	9.5	0.03	0.2	1.0	1.00	9.5	31		
CHIGWELL	8,971	16,338	23,760	406	9	222	11	11	3	2	3	3	10	14	28	33	58	57	222	17.1	9.3	0.3	0.3	0.9	0.96	8.9	27		
*CHINGFORD B.	2,868	22,076	37,510	612	15	271	28	28	3	2	4	10	15	24	27	39	45	72	269	16.3	7.2	0.1	0.4	0.4	1.16	8.4	46		
CLACTON-ON-SEA	6,470	16,737	23,410	232	9	267	14	13	...	2	6	4	4	15	68	157	265	99	11.4	0.1	0.1	0.2	0.6	0.84	9.6	60			
COLCHESTER B.	12,011	49,131	51,900	780	22	546	23	23	8	5	3	9	16	25	42	75	149	192	547	15.0	10.5	0.4	0.4	0.9	0.94	9.9	29		
COLCHESTER B.	6,554	89,362	107,400	1,940	60	665	98	98	17	12	37	36	41	66	87	81	77	116	668	18.1	6.2	0.4	0.4	0.7	1.55	9.6	51		
DAGENHAM B.	1,488	5,081	5,778	95	4	71	4	4	...	...	...	1	3	2	6	11	18	29	75	16.4	12.3	...	0.3	0.5	0.75	9.2	42
EPFING	5,293	7,324	7,318	73	...	93	4	4	...	...	...	3	5	4	7	9	28	36	96	10.0	12.7	0.1	0.1	1.9	0.83	10.5	55
FRINTON AND WALTON	1,176	6,012	5,832	86	3	81	1	1	1	1	2	3	...	3	8	4	29	30	82	14.7	13.9	...	0.5	1.5	0.81	11.3	12		
HAISTEAD	1,512	12,046	12,760	198	11	141	7	7	2	1	4	1	7	6	14	18	41	40	141	15.5	11.0	0.1	0.2	0.4	1.04	11.4	35		
HARWICH B.	19,768	39,389	76,000	1,500	53	616	71	71	11	7	11	24	36	52	66	83	117	134	612	19.7	8.1	0.3	0.5	0.5	1.11	9.0	47		
HORNGRURCH	8,425	131,061	166,900	2,289	72	1,354	84	84	11	10	22	37	61	78	133	219	318	381	1,354	13.7	8.1	0.1	0.4	0.7	1.10	8.9	37		
ILFORD B.	2,594	128,313	117,200	1,509	41	1,148	70	70	11	5	8	37	43	48	92	201	265	368	1,148	12.9	9.8	0.1	0.5	1.0	0.97	9.5	46		
LEYTON B.	4,809	8,542	9,012	121	6	118	3	2	...	...	2	4	6	2	7	23	39	25	111	13.4	13.1	...	0.8	1.3	0.83	10.9	25
MALDON B.	5,727	6,407	7,520	91	6	95	3	3	1	1	2	...	4	8	6	12	28	30	95	12.1	12.6	0.4	0.7	0.8	0.89	11.2	53		
RAVLEIGH	9,342	37,840	54,600	1,005	32	510	54	53	7	10	15	18	21	28	44	80	105	138	503	18.4	9.3	0.4	0.5	0.8	1.08	10.0	54		
ROMFORD B.	7,602	5,930	6,301	72	4	91	6	6	0	3	3	1	2	4	3	10	30	29	91	11.4	14.4	...	0.2	1.1	0.71	10.2	83		
SAFFRON WALDEN B.	38,324	61,644	67,780	1,143	45	627	59	59	4	4	7	19	20	25	43	77	136	233	627	16.9	9.3	0.3	0.4	0.8	1.11	10.3	52		
*THURROCK	10,958	7,092	7,164	101	2	88	4	4	...	...	5	1	2	1	9	9	23	33	87	14.1	12.3	0.3	0.1	1.3	0.97	11.9	40
WALTHAM HOLY CROSS	4,342	132,972	130,800	1,617	70	1,340	66	66	13	15	17	57	136	23	42	89	152	140	521	13.6	9.5	0.05	0.4	0.9	0.97	9.2	31		
WALTHAMSTON B.	3,842	43,129	54,810	744	20	821	23	23	1	7	10	12	22	23	42	89	152	140	521	13.6	10.2	0.1	0.6	1.2	1.11	11.3	41		
WANSTEAD AND WOODFORD B.	3,171	2,067	2,370	28	...	39	3	...	...	...	...	...	1	...	3	5	9	22	40	11.8	16.5	...	0.4	0.8	0.68	11.2	107
WEST MERSEA	7,329	6,751	7,243	104	3	58	1	5	...	...	3	1	2	4	1	8	13	21	58	14.4	8.0	...	0.3	0.6	1.41	8.1	10
WYHAM	1,493	2,193	2,178	34	...	33	2	2	1	...	1	...	...	...	...	5	5	15	33	15.6	15.2	...	...	2.3	0.73	11.1	59
WYVENHOE	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL	256,982	1,004,325	1,201,400	17,791	601	11,111	760	760	113	111	215	336	480	614	1,023	1,701	2,645	3,113	11,111	14.8	9.2	0.2	0.4	0.8	1.05	9.7	43		

*Mid-year estimate of population } 34,730
as now constituted } 67,780

RURAL.																											
BRAINTREE	59,556	16,378	15,580	168	8	235	7	7	1	1	6	4	4	7	23	28	53	101	235	10.8	15.1	0.1	0.1	1.0	0.77	11.6	42
CHELMFORD	86,506	27,836	30,510	485	22	340	27	27	...	1	6	7	17	14	30	40	76	122	340	15.3	11.1	0.1	0.6	0.8	0.85	9.4	56
DUNMOW	72,487	15,320	16,190	247	7	209	12	12	1	1	5	3	3	6	19	34	62	63	209	15.3	12.9		0.2	1.1	0.79	10.2	48
EPFING	34,831	13,576	15,150	236	6	165	8	8	4	2	3	2	7	8	10	25	38	60	167	15.6	11.0	0.1	0.1	0.7	0.89	9.8	34
HAISTEAD	76,693	15,997	16,650	203	9	192	6	6	1	2	4	3	6	5	15	21	46	85	194	13.0	12.3	0.1	0.2	0.9	0.73	9.0	29
LEXDEN AND WINSTREE	66,097	19,418	19,720	274	7	252	7	7	1	...	3	5	5	10	21	36	56	108	232	13.9	12.8	0.05	0.5	0.9	0.77	9.9	26
MALDON	78,507	13,348	13,436	174	6	196	5	5	...	...	4	4	3	4	16	33	51	73	193	13.0	14.6	...	0.4	0.9	0.75	10.9	29
OSGAR	47,236	11,523	12,550	201	9	113	4	4	...	...	4	1	3	3	13	18	35	42	123	16.0	9.8	0.2	0.1	0.8	0.90	8.8	20
ROCHFORD	36,080	13,969	16,510	218	5	183	9	9	2	1	5	5	4	12	14	22	46	63	183	13.2	11.1	0.5	0.5	0.5	0.79	8.8	41
SAFFRON WALDEN	78,885	15,543	15,670	210	8	199	11	11	1	1	4	5	7	4	11	18	45	89	199	13.4	12.7	0.1	0.3	1.1	0.74	9.4	52
TENDRING	68,884	21,771	22,730	363	13	261	13	13	3	3	5	3	11	13	23	35	75	77	281	16.0	11.5	0.04	0.1	1.1	0.81	9.3	36
TOTAL	702,482	184,679	193,700	2,779	102	2,856	109	109	15	13	46	40	69	81	190	307	603	883	2,356	14.3	12.2	0.1	0.3	0.9	0.89	9.8	39
TOTAL RURAL & URBAN DISTRICTS		256,582	1,004,325	1,201,400	17,791	601	11,111	760	113	111	215	336	480	614	1,023	1,701	2,645	3,113	11,111	14.8	9.2	0.2	0.4	0.8	1.05	9.7	43
TOTAL RURAL DISTRICTS		702,482	184,679	193,700	2,779	102	2,856	109	15	13	46	40	69	81	190	307	603	883	2,356	14.3	12.2	0.1	0.3	0.9	0.89	9.8	39
TOTAL ADMINISTRATIVE COUNTY		959,464	1,184,001	1,395,100	20,570	703	13,467	869	128	124	261	376	549	685	1,213	2,008	3,248	3,996	13,467	14.7	9.6	0.2	0.4	0.8	...	...	42

The figures in Columns 9—20 are given by the District Medical

TABLE XXX.

BIRTHS, DEATHS, ANNUAL RATES, &c., 1938.

SANITARY DISTRICT	Census, 1931.		Registrar-General's figures.				DEATHS AT VARIOUS AGES (Figures supplied by Medical Officers of Health.)												CRUDE ANNUAL RATES PER 1,000 OF ESTIMATED POPULATION.									
	Average.	Adjusted Population.	Estimated Resident Population.	Live Births.	Still Births.	Deaths at all ages.	Deaths under 1 year of age.	Under 1 year.											Birth-rate.	Zymotic Death- rate.	T.P. Respiratory Death-rate.	Other Respiratory Death-rate.	Comparability Factor.	Standardised Death rate, per 1000 Births.				
								1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 35.	35 and under 45.	45 and under 65.	65 and under 75.	75 and upwards.	Total Deaths.											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	
URBAN.																												
BARKING B.	...	3,877	51,270	76,790	1,113	48	550	45	45	3	16	21	22	33	44	51	75	108	131	548	14.5	7.2	0.3	6.1	0.7	1.25	9.0	40
PENFLEET	...	6,361	12,091	16,300	199	9	212	8	8	1	2	3	8	8	9	12	30	69	62	212	12.2	13.0	0.1	0.7	0.6	0.83	10.8	40
* BILLERICA	...	29,387	27,708	34,820	483	15	409	26	26	1	2	7	5	6	17	33	59	122	131	409	13.9	11.7	0.2	0.5	0.9	0.59	10.4	54
BRAINTREE AND BUCKING	...	6,812	13,497	14,800	209	5	180	7	7	1	1	3	3	11	7	11	30	53	180	14.1	12.2	0.1	0.3	0.9	0.90	11.0	33	
BRENTWOOD	...	18,269	23,684	27,420	378	12	270	11	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29
BRIGHTLINGSEA	...	2,852	4,147	4,210	48	...	63	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
BURNHAM-ON-CROUCH	...	5,352	3,492	3,545	46	2	51	1	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	91
CANVEY ISLAND	...	4,331	3,532	6,579	88	4	84	8	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31
CHELMSFORD B.	...	4,772	27,457	31,400	450	19	297	14	14	2	2	6	9	13	14	42	39	71	85	297	14.3	9.5	0.3	0.2	1.0	1.00	9.5	27
CHIGWELL	...	8,971	16,333	23,750	406	9	222	11	11	3	5	3	9	16	25	42	75	149	192	547	15.0	10.5	0.4	0.4	0.7	1.55	9.6	60
* CHINGFORD B.	...	2,863	22,076	37,510	612	15	271	23	23	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29
CLACTON-ON-SEA	...	6,470	16,737	23,410	232	9	267	14	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	51
COLCHESTER B.	...	12,011	49,131	51,900	780	22	546	23	23	8	5	3	9	16	25	42	75	149	192	547	15.0	10.5	0.4	0.4	0.9	0.94	9.9	42
DAGENHAM B.	...	6,554	89,362	107,400	1,940	60	665	98	98	17	12	37	36	41	66	87	81	77	116	608	18.1	6.2	0.4	0.4	0.7	1.55	9.6	55
DEPTFORD	...	1,488	5,081	5,778	95	4	71	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	42
FRINTON AND WALTON	...	6,293	7,324	7,318	73	...	93	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	55
HAISTEAD	...	1,176	6,012	5,892	86	3	81	1	1	1	1	2	3	...	...	...	...	...	...	...	...	...	...	...	...	12	
HARWICH B.	...	1,512	12,046	12,760	198	11	141	7	7	2	1	4	1	7	6	14	18	41	40	141	15.5	11.0	0.1	0.2	0.4	1.04	11.4	35
HORNCHURCH	...	19,768	39,839	76,000	1,500	53	616	71	71	11	7	11	24	36	52	66	83	117	134	612	19.7	8.1	0.3	0.5	0.5	1.11	9.0	47
ILFORD B.	...	8,425	131,061	166,900	2,289	72	1,354	84	84	11	10	22	37	61	78	133	219	318	381	1,354	13.7	8.1	0.1	0.4	0.7	1.10	8.9	37
LEYTON B.	...	2,594	128,313	117,200	1,509	41	1,148	70	70	11	5	8	37	43	48	92	201	265	368	1,148	12.9	9.8	0.1	0.5	1.0	0.97	9.5	46
MAIDON B.	...	4,899	8,542	9,012	121	6	118	3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25
RAYLEIGH	...	5,727	6,407	7,520	91	6	95	3	3	1	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	53
ROMFORD B.	...	9,342	37,840	54,600	1,005	32	510	54	53	7	10	15	18	21	28	44	80	105	128	509	18.4	9.3	0.4	0.5	0.8	1.08	10.0	54
SAFFRON WALDEN B.	...	7,502	5,930	6,301	72	4	91	6	6	0	3	3	1	2	4	3	10	30	29	91	11.4	14.3	...	0.2	1.1	0.71	10.2	83
* THURROCK	...	38,324	61,644	67,780	1,143	45	627	59	59	4	4	7	19	20	25	43	77	136	233	627	16.9	9.3	0.3	0.4	0.8	1.11	10.3	52
WALTHAM HOLY CROSS	...	10,988	7,092	7,164	101	2	88	4	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40
WALTHAMSTOW B.	...	4,342	132,972	130,800	1,617	70	1,340	66	66	13	15	17	57	1	2	1	9	9	23	87	14.1	12.3	0.3	0.1	1.3	0.97	11.9	41
WANTSEAD AND WOODFORD B.	...	3,842	43,129	54,810	744	20	621	23	23	1	7	10	12	22	23	42	89	152	140	521	13.6	9.5	0.05	0.6	1.2	1.11	11.3	40
WEST MERSEA	...	3,171	2,067	2,370	28	...	39	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	31
WIGHAM	...	7,329	6,751	7,245	104	3	53	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	107
WIVENHOE	...	1,493	2,193	2,178	34	...	33	2	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10
	59	
TOTAL	...	256,982	1,004,325	1,201,400	17,791	601	11,111	760	760	113	111	215	336	480	614	1,023	1,701	2,645	3,113	11,111	14.8	9.2	0.2	0.4	0.8	1.05	9.7	43

*Mid-year estimate of population } 34,730
as now constituted } 67,780

RURAL.

BRAINTREE	59,556	16,378	15,580	168	8	235	7	7	1	1	6	4	4	7	23	28	53	101	255	10.8	15.1	0.1	0.1	1.0	0.77	11.6	42			
CHELMFORD	86,906	27,836	30,510	435	22	340	27	27	...	...	1	6	7	14	30	40	76	122	340	15.3	11.1	0.1	0.6	0.8	0.85	9.4	56			
DUNLOW	72,487	13,320	16,190	247	7	209	12	12	1	1	5	3	3	6	19	34	62	63	209	15.3	12.9		0.2	1.1	0.79	10.2	48			
EPFING	34,851	13,575	15,150	236	6	165	8	8	4	2	3	2	7	8	10	25	38	60	167	15.6	11.0	0.1	0.1	0.7	0.89	9.8	34			
HALSTEAD	76,693	15,997	18,630	203	9	192	6	6	1	2	4	3	6	5	15	21	46	85	194	13.0	12.3	0.1	0.2	0.9	0.73	9.0	29			
LEXDEN AND WINSTREE	66,097	19,418	19,720	274	7	252	7	7	1	...	3	5	5	10	21	35	56	108	232	13.9	12.8	0.05	0.5	0.9	0.77	9.9	28			
MAIDON	78,507	13,348	13,436	174	6	196	5	5	...	...	4	4	3	4	16	33	51	73	163	13.0	14.6		0.4	0.9	0.75	10.9	29			
ONGAR	47,236	11,323	12,550	201	9	123	4	4	...	...	4	1	3	3	13	18	35	42	123	16.0	9.8	0.2	0.1	0.8	0.90	8.8	20			
ROCHFORD	36,080	13,965	16,510	218	5	183	9	9	2	1	5	5	4	12	14	22	46	63	183	13.2	11.1	0.5	0.5	0.5	0.79	8.8	41			
SAFFRON WALDEN	78,385	15,543	15,670	210	8	199	11	11	1	1	4	5	7	4	14	18	45	89	199	13.4	12.7	0.1	0.3	1.1	0.74	9.4	52			
TENDRING	68,884	21,771	22,730	363	15	261	13	13	3	3	5	3	11	13	23	35	75	77	261	16.0	11.5	0.04	0.1	1.1	0.81	9.3	36			
TOTAL	702,482	184,679	193,700	2,779	102	2,356	109	109	15	13	46	40	69	81	190	307	603	883	2,356	11.3	12.2	0.1	0.3	0.9	0.80	9.8	39			
TOTAL BORO' & URBAN DISTRICTS	256,982	1,004,325	1,201,400	17,791	601	11,111	760	760	113	111	215	336	480	614	1,023	1,701	2,645	3,113	11,111	14.8	9.2	0.2	0.4	0.8	1.05	9.7	43			
TOTAL RURAL DISTRICTS	702,482	184,679	193,700	2,779	102	2,356	109	109	15	13	46	40	69	81	190	307	603	883	2,356	11.3	12.2	0.1	0.3	0.9	0.80	9.8	39			
TOTAL ADMINISTRATIVE COUNTY	959,464	1,189,004	1,395,100	20,570	703	13,467	869	869	128	124	261	376	549	695	1,213	2,008	3,248	3,996	13,467	14.7	9.6	0.2	0.4	0.8	...	...	42			

SANITARY DISTRICT.																																				Special Causes (in-cluded in Column 35).						
Typhoid Fever, etc.	Malaria.	Scarle Fever.	Whooping Cough.	Diphtheria.	Influenza.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Respiratory Tuberculosis.	Other Tuberculosis.	Syphilis.	General Paralysis of the Insane, etc.	Cancer.	Diabetes.	Cerebral Hemorrhage.	Heart Disease.	Aneurism.	Other Circulatory Diseases.	Bronchitis.	Pneumonia.	Other Respiratory Diseases.	Peptic Ulcer.	Discharges, etc. (under 2 years).	Appendicitis.	Oirrhosis of Liver.	Other Liver Diseases.	Other Digestive Diseases.	Nephritis.	Puerperal Sepsis.	Other Puerperal Causes.	Congenital Causes, etc.	Scullity.	Suicide.	Other Violence.	Other Defined Causes.	Un-defined Causes.	TOTAL.	Folio-Encephalitis.	Poliomyelitis.	Leprosy.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)							
URBAN																																										
BARKING ..	1	...	2	14	11	1	...	30	6	...	2	77	7	44	120	6	18	9	38	4	4	5	5	...	4	12	16	2	1	24	15	8	24	40	...	550	...	...	...
BENFLEET	1	...	3	...	12	1	...	1	39	1	21	54	4	10	3	6	1	3	1	2	...	4	1	7	4	...	24	6	6	7	13	...	212	...	...	...
BILLERICAY	1	...	...	4	...	...	18	6	...	2	70	7	27	97	1	20	10	14	6	5	4	...	4	1	9	9	...	...	13	39	4	14	22	1	409	...	...	...
BRAINTREE	1	...	...	...	...	5	...	...	...	40	3	13	44	1	19	4	5	4	1	2	1	1	1	3	...	1	5	8	2	4	12	...	180	...	...	...	
BRENTWOOD	1	...	...	2	...	...	11	2	...	1	41	3	15	60	4	33	6	6	2	1	1	1	1	1	1	3	...	1	10	18	2	8	26	...	270	...	...	...
BRIGHTLINGSEA	1	...	...	...	9	2	1	22	...	6	...	2	...	...	...	...	...	...	2	1	...	1	1	3	1	1	7	1	63	...	...	...
BURNHAM-ON-CROUCH	1	...	...	...	...	1	...	2	...	9	...	6	15	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	5	...	84	...	...	...
CANVEY ISLAND	1	...	...	1	1	...	...	10	...	4	34	...	...	11	1	...	...	...	1	1	1	6	6	1	1	9	23	6	18	26	1	297	...	...	...
CHELMSFORD B.	1	8	3	...	1	47	...	19	66	1	5	5	12	4	2	3	1	1	1	3	6	7	...	2	5	7	3	7	17	...	222		
CHIGWELL ..	1	1	...	2	...	...	...	8	1	...	2	43	...	16	57	...	12	4	9	3	2	3	...	1	1	7	7	...	...	20	1	7	5	27	...	271	...	...	...
CHINGFORD	1	...	...	2	...	1	14	3	...	...	43	...	8	82	...	15	1	14	...	5	...	3	...	...	11	5	...	...	7	5	2	9	22	2	267	...	...	...
CLACTON-ON-SEA	2	3	4	1	...	3	49	...	6	90	1	26	14	23	8	12	...	4	...	2	7	13	1	1	15	9	6	11	43	2	546	...	1		
COLCHESTER B.	1	1	1	1	...	22	6	1	...	82	...	42	183	...	19	20	51	8	5	17	4	2	4	17	15	1	6	47	19	6	26	53	2	665	...	1		
DAGENHAM B.	9	...	13	8	1	2	46	10	4	1	85	...	12	138	...	2	...	3	...	1	...	...	...	...	1	1	...	...	42	5	2	1	8	...	71	...	1		

TABLE XXXII.
NOTIFICATIONS OF INFECTIOUS DISEASE AND ATTACK RATES.

52 WEEKS ENDED 31ST DECEMBER, 1938.

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(Figures obtained from the Weekly Notification Returns).

SANITARY DISTRICTS.	Estimated Population 1938.	SCARLET FEVER.		DIPHTHERIA.		ENTERIC FEVER.		PUERPERAL PYREXIA.		ERYSIPELAS.		OPHTHALMIA NEONATORUM.		PNEUMONIA.		ENCEPHA- LITIS LE- THARGICA.		ACUTE POLIO- MYELITIS.		SMALL- POX.		VARI- OUS.		TOTAL.
		No.	Per 1,000.	No.	Per 1,000.	No.	Per 1,000.	No.	No.	Per 1,000.	No.	No.	Per 1,000.	No.	No.	No.	No.	No.						
URBAN.																								
BARKING B.	76790	263	3.43	164	2.14	8	0.10	24	45	0.59	5	118	1.54	...	3	...	69	699						
BENFLEET	16300	56	3.44	27	1.66	...	...	1	5	0.31	...	6	0.37	...	...	...	2	97	
BILLERICAY	34820	76	2.18	9	0.26	1	0.03	9	5	0.14	...	18	0.52	...	1	...	96	215						
BRAINTREE	14800	3	0.20	2	0.13	...	...	2	1	0.07	...	4	0.27	...	35	...	1	43				
BEENTWOOD	27420	66	2.41	19	0.69	2	0.07	8	14	0.51	2	13	0.47	...	...	...	23	147			
BRIGHTLINGSEA	4210	8	1.90	...	...	...	...	...	...	...	...	1	0.24	...	...	...	...	9
BURNHAM-ON-CROUCH	3545	16	4.61	...	...	...	...	1	...	...	...	6	1.69	...	...	...	1	24
CANVEY ISLAND	6579	2	0.30	6	0.91	...	...	...	...	...	...	1	0.15	...	...	...	12	21
CHELMSFORD B.	31400	47	1.50	5	0.16	2	0.06	5	5	0.16	2	7	0.22	1	...	...	2	76				
CHIGWELL	23750	24	1.01	87	3.66	...	...	5	5	0.21	1	7	0.29	...	1	...	2	130				
CHINGFORD B.	37510	67	1.79	7	0.19	2	0.05	10	6	0.16	2	21	0.56	...	...	...	13	128			
CLAUGHTON-ON-SEA	23410	5	0.21	10	0.43	...	...	...	2	0.08	...	1	0.04	...	2	...	101	121			
COLCHESTER B.	51900	115	2.22	24	0.46	3	0.06	9	16	0.31	5	64	1.23	...	13	...	186	435						
DAGENHAM B.	107400	278	2.59	136	1.27	1	0.01	27	47	0.44	8	98	0.91	...	1	...	18	614						
EPFING	5778	12	2.08	...	...	1	0.17	2	3	0.52	...	17	2.94	...	1	...	50	86				
FEINTON & WALTON	7318	2	0.27	...	...	...	...	...	2	0.27	...	4	0.55	...	...	...	16	24
HALSTEAD	5832	8	1.37	...	...	...	...	1	...	...	...	...	...	...	13	...	1	23
HARWICH B.	12760	10	0.78	2	0.16	...	...	...	...	...	...	6	0.47	...	20	...	...	38
HORNCHURCH	76000	229	3.01	47	0.62	3	0.04	11	31	0.41	6	69	0.91	...	1	...	4	401						
ILFORD B.	166900	303	1.82	145	0.87	4	0.02	84	61	0.37	9	152	0.91	...	4	...	99	861						
LEYTON B.	117200	291	2.48	192	1.64	...	...	22	67	0.57	2	107	0.91	1	4	...	28	714				
MALDON B.	9012	4	0.44	1	0.11	...	...	...	5	0.55	...	5	0.55	...	...	...	6	23
RATLEIGH	7520	18	2.39	23	3.06	...	...	...	1	0.13	...	2	0.27	...	...	...	...	44
ROMFORD B.	54600	129	2.36	39	0.71	4	0.07	13	29	0.53	3	34	0.62	...	3	...	13	267						
SAFFRON WALDEN B.	6501	3	0.48	...	...	...	...	...	2	0.32	...	...	...	...	...	...	...	5
THURROCK	67780	230	3.39	43	0.63	17	0.25	9	17	0.25	7	51	0.75	...	...	...	10	385			
WALTHAM HOLY CROSS	7164	13	1.81	12	1.67	...	...	3	4	0.56	...	3	0.42	...	1	...	...	36		
WALTHAMSTOW B.	130800	279	2.13	66	0.50	2	0.01	35	75	0.57	5	146	1.12	3	1	...	790	1401						
WANSTEAD & WOODFORD B.	54810	83	1.51	35	0.64	1	0.02	11	24	0.44	4	36	0.66	...	2	...	3	199						
WEST MERSEA	2370	3	1.27	...	...	1	0.42	...	1	0.42	...	3	1.27	...	...	...	...	8
WYTHAM	7243	4	0.55	2	0.28	...	...	...	2	0.28	...	8	1.10	...	1	...	5	22			
WIVENHOB	2178	4	1.84	2	0.92	...	...	1	...	...	...	...	...	...	...	...	...	7
TOTAL ...	1201400	2651	2.21	1104	0.92	52	0.04	293	475	0.39	61	1008	0.84	5	108	...	1551	7308						
RURAL.																								
BRAINTREE	15580	28	1.80	15	0.96	...	...	...	6	0.39	...	15	0.96	...	18	...	7	89			
CHELMSFORD	30540	25	0.82	24	0.79	1	0.03	3	9	0.29	...	8	0.26	...	6	...	...	76				
CHENNOY	16190	36	2.22	...	...	...	...	3	3	0.19	...	5	0.31	...	13	...	2	62		
EPFING	15150	22	1.45	5	0.33	...	...	5	5	0.33	...	9	0.69	...	...	...	76	122	
HALSTEAD	15630	9	0.58	...	...	...	...	1	1	0.06	1	2	0.13	...	14	...	1	28		
LEXDEN AND WINSTREE	19720	61	3.09	2	0.10	1	0.05	1	2	0.10	...	18	0.91	...	4	...	2	91						
MALDON	13430	9	0.67	1	0.07	...	...	2	5	0.37	...	10	0.74	...	...	...	...	27
ONGAR	12550	14	1.12	6	0.48	...	...	2	2	0.16	1	12	0.96	...	...	...	4	41	
ROCHFORD	16510	21	1.27	54	3.27	...	...	1	5	0.30	2	10	0.61	...	1	...	6	100				
SAFFRON WALDEN	15670	9	0.58	...	...	...	...	2	1	0.06	...	2	0.13	...	4	...	...	18
TENDRING	22730	18	0.79	9	0.40	...	...	6	3	0.13	1	17	0.75	...	13	...	3	70				
TOTAL ...	193700	252	1.30	116	0.60	2	0.01	25	42	0.22	5	108	0.56	...	73	...	101	724						
TOT. BORO'S & URBAN DISTRICTS	1201400	2651	2.21	1104	0.92	52	0.04	293	475	0.39	61	1008	0.84	5	108	...	1551	7308						
TOTAL RURAL DISTRICTS	193700	252	1.30	116	0.60	2	0.01	25	42	0.22	5	108	0.56	...	73	...	101	724						
TOTAL FOR ADMIN. COUNTY	1395100	2903	2.08	1220	0.87	54	0.04	318	517	0.37	66	1116	0.80	5	181	...	1652	8032						

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